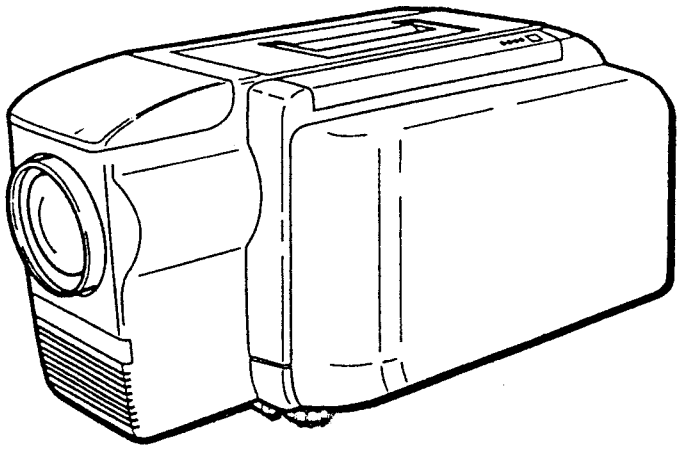
SANYO

SERVICE MANUAL

Liquid Crystal Colour Video Projector

Model No. PLC-220P
(Europe, Asia, Africa, M.E.)
Model No. PLC-220PB
(U.K.)
Model No. PLC-220PP
(Australia, NewZealand)



Contents

Safety Instructions ····· 2
Specifications ····· 3
Fundamental Principles of Liquid Crystal Projector ····· 4
System Control ····· 5
Description of PLC-220P/PB/PP ····· 6
Troubleshooting Chart ····· 20
Lamp Replacement ····· 25
Mechanical Disassemblies ····· 26
LCD Panel Replacement ····· 33
Optical Adjustments ····· 35
Convergence Adjustments ····· 38
Cleaning Methods ····· 40
Service Adjustments ····· 42
Chassis Electrical Parts List ····· 48
Cabinet Parts List ····· 63
Voltage & Waveforms ····· 68
Block Diagrams ····· 78
Schematic Diagrams ····· 79
Component and Testpoint Locations ··· 95

ORIGINAL VERSION

Service Ref. No. PLC-220P-00
PLC-220PB-00
PLC-220PP-00

PRODUCT CODE
P4AA(PLC-220P) ; 1122 008 00
P4AB(PLC-220PB); 1122 008 01
P4AC(PLC-220PP); 1122 008 02

REFERENCE NO. SM525014

SAFETY INSTRUCTIONS

SAFETY PRECAUTIONS

WARNING: The chassis of this projector is isolated (COLD) from AC line by using the converter transformer. Primary side of the converter transformer and lamp power supply unit circuit is connected to the AC line and it is hot, which hot circuit is identified with the line in the schematic diagram. For continued product safety and protection of personnel injury, servicing should be made with qualified personnel.
The following precautions must be observed:

1. An isolation transformer should be connected in the power line between the receiver and the AC line before any service is performed on the projector.

2. Comply with all caution and safety-related notes provided on the cabinet back, cabinet bottom, inside the cabinet or on the chassis.

3. When replacing a chassis in the cabinet, always be certain that all the protective devices are installed properly, such as control knobs, adjustment covers or shields and barriers.

DO NOT OPERATE THIS PROJECTOR WITHOUT THE PROTECTIVE SHIELD IN POSITION AND PROPERLY SECURED.

4. Before replacing the cabinet cover, thoroughly inspect the inside of the cabinet to see that no stray parts or tools have been left inside.

Before returning any projector to the customer, the service personnel must perform the following safety checks and be sure that it is completely safe to operate without danger of electrical shock.

PRODUCT SAFETY NOTICE

Product safety should be considered when a component replacement is made in any area of the projector. Components indicated by a mark (⚠) in the parts list and the schematic diagram designate components in which safety can be of special significance. It is, therefore, particularly recommended that the replacement of these parts must be made by exactly the same parts.

" SERVICE PERSONNEL ---- WARNING " and the following or the equivalent : " Eye Damage May Result From Directly Viewing The Light Produced By The Lamp Used In This Equipment.
Always Turn Off Lamp Before Opening Cover. Ultraviolet Radiation Eye Protection Required During This Servicing. "

Never turn the power on without the lamp to avoid electric-shock or damage of the devices since the stabilizer generates high voltages(10kV - 15kV) at its start.

Since the lamp is very high temperature during units operation replacement of the lamp should be done at least one hour after the power has been turned off, to allow the lamp cool-off.

SPECIFICATIONS

Projector Type	Portable LC colour video projector
Dimensions (H x W x D)	253 mm × 268 mm × 550 mm
Net Weight	13.6 kg (29.9 lbs)
LCD Panel System	3.1" TFT Active Matrix type (Thin Film Transistor) × 3
Number of Pixels	338,400 (112,800 × 3)
Colour System	4 colour system (PAL, SECAM, NTSC4.43 and NTSC)
Projection Image Size (Diagonal)	51 cm to 762 cm (20 to 300 inch) Adjustable
Contrast Ratio	100 :1
Horizontal Resolution	450 TV lines
Projection Lens	f4.2~ 4.5 lens with 135mm ~ 270 mm Motor-drive zoom and focus
Lens Aperture	67 mm
Throw Distance	1.9 m~13.4 m
Projection Lamp	Metal Halide, 180 watt
Projection Mirror	Dichroic mirror system
AV Input jacks	PHONO Type × 1 (Video, Audio R and L), DIN 4 pin (S-Video) × 1 and 21 pin (SCART) × 1
Audio Monitor Output Jacks	PHONO Type × 1 (R and L)
Built-in Speaker	3W RMS
Image Elevation Adjustment	Up 5° , Down 5°
Voltage	220 ~ 240V AC, 50/60 Hz
Power Consumption	260 Watts
Operating Temperature	5℃ ~ 35℃
Storage Temperature	– 10℃ ~ 60℃
Remote Control Battery	AA, UM3 or R06 type × 3
Standard Accessories	Remote Control Unit, R/C Cable (1.5m), AC Cord Owner's Instruction Manual, Protective Dust Cover

FUNDAMENTAL PRINCIPLES OF LIQUID CRYSTAL PROJECTOR

The white light from the light source is separated into red (R), green (G), and blue (B) light components by dichroic mirror, and each of these is projected onto three liquid crystal panels.

The three liquid crystal panels are driven by the primary color signals R/G/B, and R/G/B images are reproduced by the shutter operation of these liquid crystal panels. These reflections are condensed by lens and projected onto the screen.

The structure of the liquid crystal projector is shown in the diagram. The ultraviolet and infrared rays are cut out from the light beams given off from the metal halide lamp, which is the light source, by UV cut filter and cold filter at the beginning. This is to eliminate unnecessary light components in the projected images, and serves to protect the liquid crystal panel from the light and heat of the lamp.

The light beam, now made up only of visible light components, next undergoes spectral diffraction of the red light by the dichroic mirror used for the selecting out of red. The spectrally diffracted red light is reflected by the aluminum full reflection mirror, is projected onto panel unit R, and here the red component image is formed.

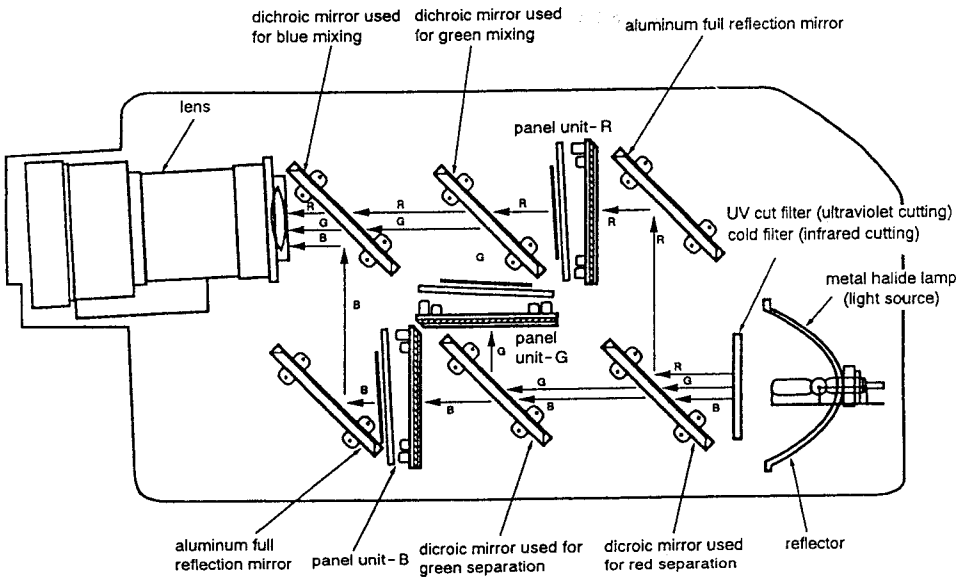
The light beam, with the red light having been separated out, next undergoes spectral diffraction of the green light by the dichroic mirror used for the selecting out of green. The spectrally diffracted green light is projected onto panel unit G, and here the green component image is formed.

The images formed on panel units R and G are mixed together by the dichroic mirror used for green mixing.

After spectral diffraction of the red and green light, the light beam (blue light) is projected onto panel unit B, and here the blue component image is formed.

The image formed on panel unit B, after being reflected by the aluminum full reflection mirror, is mixed with the red and green fused image by the dichroic mirror used for blue mixing. The mixed image is thereupon projected onto the screen through a lens.

Liquid crystal projector conceptual diagram



SYSTEM CONTROL

All systems are controlled by IC801 (CPU).

Main functions:

1. Power ON/OFF.
2. Input selection.
3. Digital control.
4. On screen display.
5. Volume control.
6. Lamp monitor (Standby).
7. Temperature monitor (Temp. Warning).
8. Lamp replacement monitor (Lamp replace).
9. Zoom and Focus motor control.

1. Power ON/OFF.

CPU controls the power relay by a signal from the unit or the remote control.

2. Input selection.

Input selection will be switched from AV1 → AV2 → RGB → AV1 by the V.MODE button on the unit or remote control. During this operation "V.MODE" will be shown on the right corner for 5 seconds. When you turn on the power switch, the lamp is not stable yet and the indication will be shown for 30 seconds.

3. Digital control .

Digital control will be switched from COLOUR→ TINT→ CONTRAST→ BRIGHTNESS→ SHARPNESS → SOUND by pressing the FUNCTION button. After these selections, level can be adjusted by LEVEL button. Indication on the screen will be off after 8 seconds. When you press "NORMALIZATION" button, "NORMALIZATION" will be shown on the screen and all digital controls will be switched back to the factory setting. "NORMALIZATION" indication will be shown for 5 seconds.

4. On screen display.

All functions will be shown on the screen. Signal will be output from CPU and combined at signal circuit.

5. Volume control.

Volume will be adjusted by the buttons on the unit and remote. The indication will be shown for 5 seconds. The sound will be muted by the mute button and the indication will be changed to red color for 5 seconds.

6. Lamp monitor.

This unit uses a metal-halide arc lamp. This lamp is operated at high voltage. 10 kV–15 kV will be used at striking and 80 V after lamp is on. This lamp generates heat and needs cooling. After turning off the lamp, the cooling fan continues to run for one minute to cool down the lamp. This is required to reduce the gas pressure inside the lamp. During this period, the lamp can not be turned on. The green LED will not be on for one minute after turning off the lamp. After one minute the indicator will be on and the lamp is ready to start again.

7. Temperature monitor.

When the temperature rises due to an inoperative fan or poor ventilation, the power will be automatically turn off and the red LED Indicator will light. The temperature is monitored by a bi-metal temp. sensor.

8. Lamp replacement monitor.

The lamp has a life. The orange LED indicator will inform you of the **recommended replacing time**. The Indicator will be lit after 1000 hours of use.

Accumulated time will be stored in NON-VOLA memory (IC803) by CPU (IC801), and this information is not erased after the power cord is unplugged. After replacing the lamp, RESET switch should be set. This switch is only activated when Power is on. "RESET" indication will be shown on the screen. Do not press this RESET switch other than replacing the lamp. In the case of replacing control unit for repairing NON-VOLA memory IC (IC803) should be used continually.

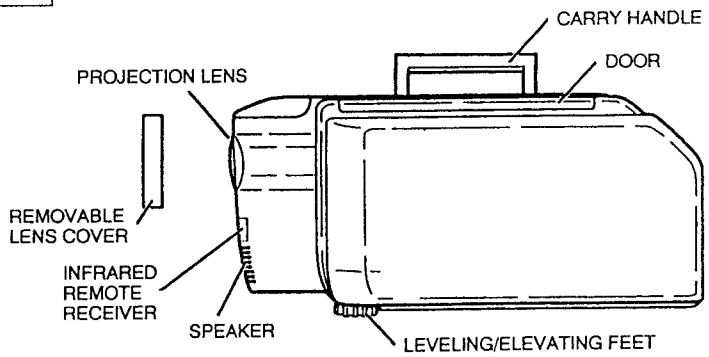
9. Zoom and Focus motor control.

Two DC motors are attached to the lens for zoom, focus adjustment.

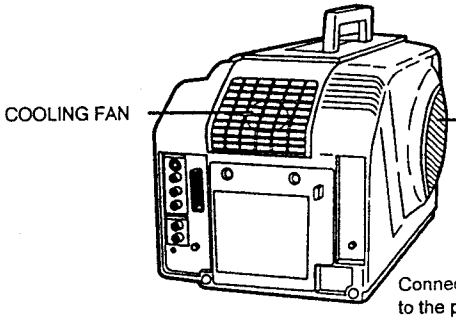
When adjusting zoom, "ZOOM" will be shown on the screen and it will be 5 seconds after releasing the switch. When adjusting focus, "FOCUS" will be shown on the screen and it will be off 5 seconds after releasing the switch. For motor protection purpose the motor will stop after pressing the switch for 10 seconds.

4 DESCRIPTION

FRONT



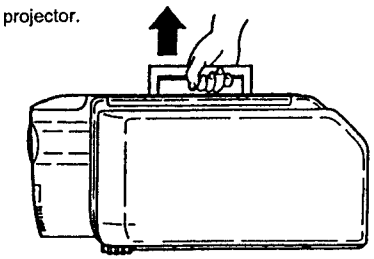
REAR



Connect the AC power supply cord (supplied) to the projector.
The socket-outlet must be near this equipment and must be easily accessible.

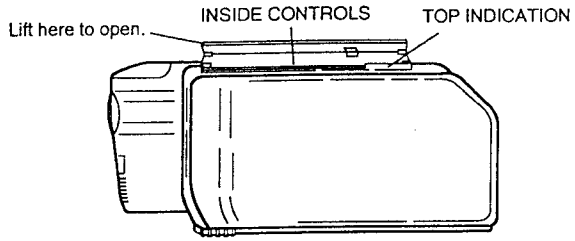
MOVING THE PROJECTOR

Use the carry handle when moving the projector.

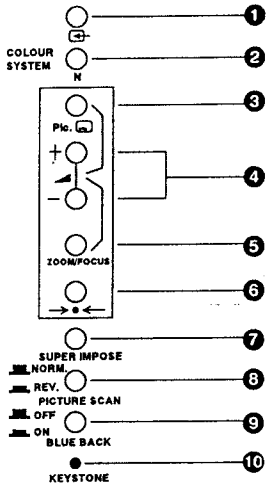


Replace the lens cover when moving the projector to prevent damage to the lens.

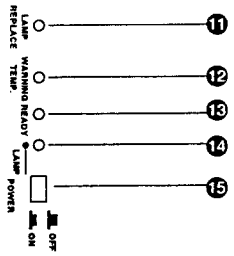
5 OPERATION OF CONTROLS



INSIDE CONTROLS



TOP INDICATION



❶ VIDEO MODE SELECT BUTTON
Press to select video source. (Video Input-1, Video Input-2, or RGB INPUT)

❷ COLOUR SYSTEM SELECT BUTTON
Press to select colour system. (AUTO → PAL → SECAM → NTSC4.43 → NTSC)

❸ FUNCTION SELECT BUTTON
Used to select on-screen adjustment displays for colour, tint, brightness, contrast, sharpness and sound. Press repeatedly to cycle.

❹ LEVEL CONTROL BUTTONS
Used to adjust volume, zoom, focus, colour, tint, brightness, contrast, sharpness and keystone by pressing + or - button.

❺ ZOOM/FOCUS BUTTON
Used to select power zoom lens or focus system.

❻ NORMALIZATION BUTTON
Used to reset to normal factory set picture and sound adjustment.

❼ SUPERIMPOSE BUTTON
Press this button to produce white characters and lines on a blue background.

❽ REVERSE PICTURE SCANNING BUTTON
Automatically reverses the projected screen image.

❾ BLUE BACK BUTTON
Used to project the blue image without video noise on the screen when the video source is unplugged or turned off.

❿ KEYSTONE BUTTON
Used to select the keystone correction mode.

⓫ LAMP REPLACEMENT INDICATOR
Lights orange when projection lamp is nearing end of service life.

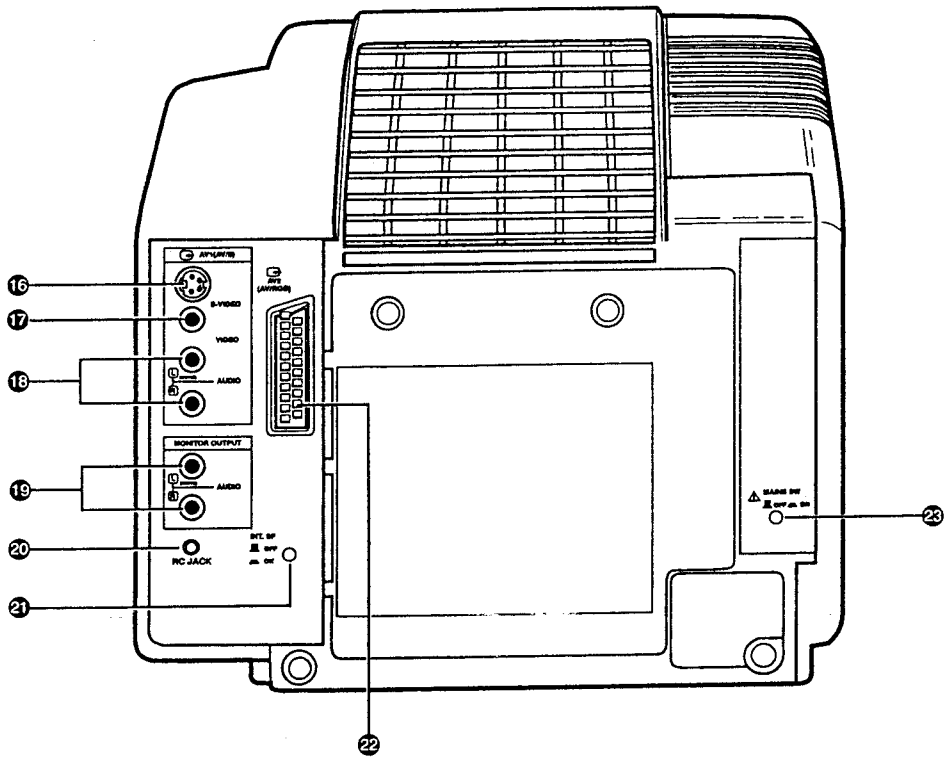
⓬ TEMPERATURE WARNING INDICATOR
Lights red when internal projector temperature is too high.

⓭ READY INDICATOR
Lights green when projector is ready to be turned on.

⓮ POWER INDICATOR
Lights dim when the projector is on.
Lights bright when the projector is stand-by position.

⓯ POWER (LAMP) ON/OFF BUTTON
Press to turn projection lamp on or off.

BACK OF THE PROJECTOR



⑯ S-VIDEO INPUT JACK
Used to connect a S-VHS video source to the projector.

⑰ VIDEO INPUT-1 JACK
Used to connect a video source to the projector.

⑱ AUDIO INPUT-1 JACKS
Used to connect an audio input to the projector.

⑲ AUDIO MONITOR OUTPUT JACKS
Permits audio connection to a monitor.

⑳ WIRED REMOTE JACK
When using the wired remote control, connect the remote cable to this jack.

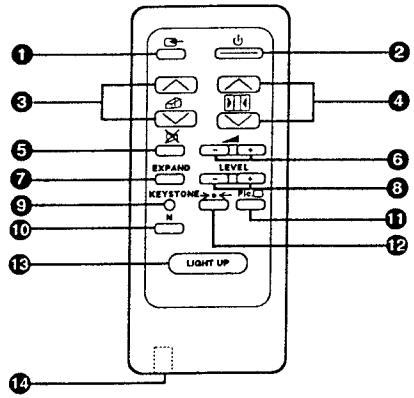
㉑ INT. SP ON/OFF BUTTON
Turns the built-in speaker on or off.

㉒ 21-PIN TERMINAL
Used to connect a video source with a 21-pin terminal to the projector.

㉓ MAINS ON/OFF BUTTON
Press to turn the projector on.

6 REMOTE CONTROL OPERATION

INFRARED/ WIRED REMOTE CONTROL



❶ VIDEO MODE SELECT BUTTON
Press to select video source. (Video Input-1, Video Input-2 or RGB Input)

❷ POWER (LAMP) ON/OFF BUTTON
Press to turn projection lamp on or off.

❸ ZOOM BUTTONS
Used to operate power zoom lens.

❹ FOCUS BUTTONS
Used to operate power focus system.

❺ SOUND MUTE BUTTON
Used to mute sound.

❻ VOLUME BUTTONS
Used to adjust volume.

❼ EXPAND BUTTON
Press to expand the center portion of the image twice. This function is cancelled when the EXPAND button is pressed again or any other function button is pressed.

❽ LEVEL CONTROL BUTTONS
Used to adjust zoom, focus, colour, tint, brightness, contrast, sharpness and keystone by pressing + or - button.

❾ KEYSTONE BUTTON
Used to select the keystone correction mode.

❿ COLOUR SYSTEM SELECT BUTTON
Press to select ,colour system. (AUTO → PAL → SECAM → NTSC4.43 → NTSC)

⓫ FUNCTION SELECT BUTTON
Used to select on-screen adjustment displays for colour, tint, brightness, contrast and sharpness.
Press repeatedly to cycle.

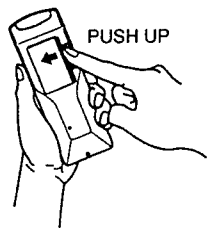
⓬ NORMALIZATION BUTTON
Used to reset to normal factory set picture and sound adjustment.

⓭ LIGHT UP BUTTON
Press to light the illumination for function buttons on the remote control unit for 5 seconds, and press any other function button during the lighting to light for another 5 seconds.

⓮ WIRED REMOTE JACK
When using the wired remote control, connect the remote cable to this jack.

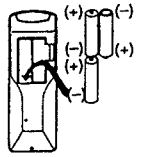
REMOTE CONTROL BATTERY INSTALLATION

1 Remove the battery compartment lid.

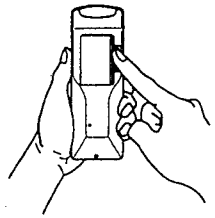


2 Slide the batteries into the compartment.

Note: For correct polarity (+ and - terminal), be sure the battery terminals are in contact with the pins in the compartment.



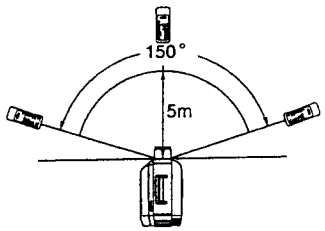
3 Replace the compartment lid.



The remote control unit can be used as wireless or wired remote control.

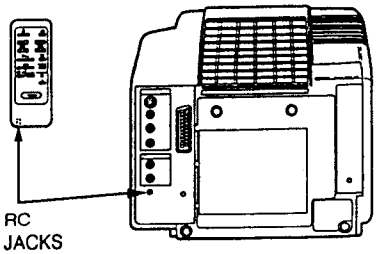
USING THE REMOTE CONTROL UNIT (wireless)

Point the remote control toward the front of the projector (Receiver window) whenever pressing the buttons. Maximum operating range for the remote control is about 5m and 150° from the front of the projector.



USING THE REMOTE CONTROL UNIT (wired)

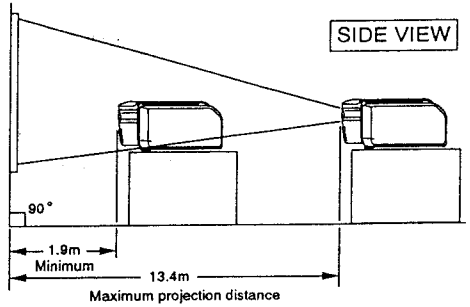
Connect a remote control cable to RC jacks located on the remote control unit and the back of the projector.



To insure safe operation, please observe the following precautions:
* Use (3) AA, UM3 or R06 type batteries.
* Change three batteries at the same time.
* Do not use a new battery with a used battery.
* Avoid contact with water.
* Do not drop the remote control unit.

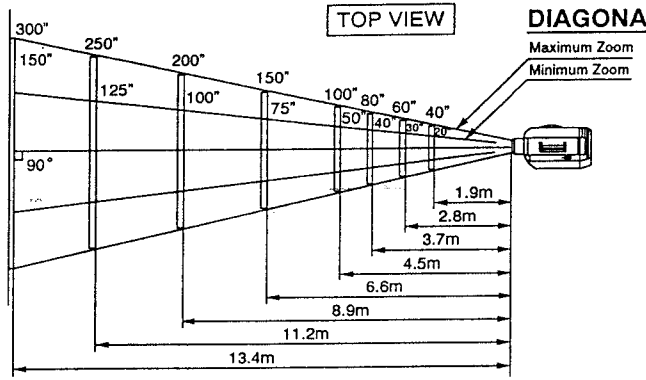
7 SETTING-UP THE PROJECTOR

POSITIONING:
- This projector is basically designed to project on a flat projection surface. If the projector is not placed at 90° angle to the screen, the projected image will have a keystone distortion. (See page 15 KEYSTONE CORRECTION.)
- This projector can be focused from 1.9m ~13.4m.
- Use the illustration below as an example when positioning the projector to the screen.



ROOM LIGHT

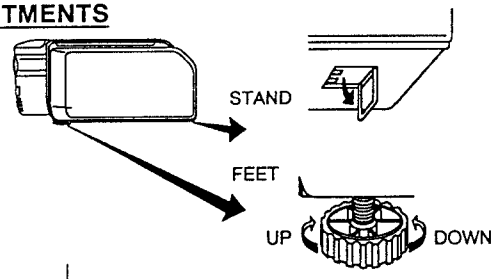
The projector should ideally be placed in a room with very limited light. Picture quality will be directly affected by lighting conditions.

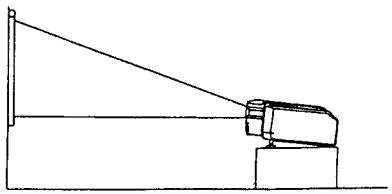


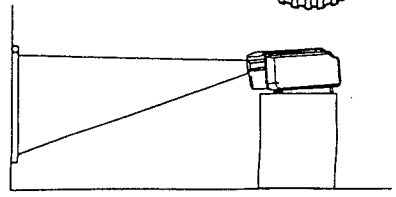
DIAGONAL IMAGE SIZES

LEVELING AND ELEVATING ADJUSTMENTS

Picture adjustments can be made with the two leveling/elevating feet.
Adjustments of 5° up are possible by rotating the feet on the bottom of the projector.
Adjustments of 5° down are possible by raising up the stand.







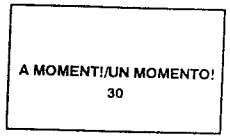
8 USING THE PROJECTOR

TO TURN ON THE PROJECTOR

Connect the projector to a video source (VCR, Video Camera, Video Disc Player, etc.) using the appropriate terminals on the rear of the projector (See page 17-18).

Connect the projector's AC power cord into a wall outlet and press the MAINS ON/OFF button (locate on projector.). The READY indicator will light GREEN.

Press the POWER (LAMP) ON/OFF button on the projector to ON. The POWER indicator will light dim and the cooling fan will operate. The wait display (A MOMENT!/UN MOMENTO! and numeral 30) appears on the screen and the count-down starts (30-29-28-...1). The signal from the video source appears after 30 seconds. Now the remote control unit can be activated, and all functions may be used.



CAUTION:
- **THIS PROJECTOR USE A METAL-HALIDE ARC LAMP. IF YOU TURN ON THE LAMP, DO NOT TURN IT OFF FOR AT LEAST 5 MINUTES, SO AS NOT TO SHORTEN ITS LIFE.**
- **DO NOT UNPLUG THE PROJECTOR AND PRESS MAINS ON/OFF BUTTON (LOCATE ON PROJECTOR) TO OFF UNTIL THE COOLING FAN HAS STOPPED OPERATING.**

NOTE 1: After you turn off the projector use the POWER (LAMP) ON/OFF button on the projector or on the remote control unit you must wait one minute before you can turn the projector on again.

NOTE 2: TEMPERATURE WARNING INDICATOR flashes red, the projector will automatically turn off. Wait at least 5 minutes before turning the projector on.

If the TEMPERATURE WARNING INDICATOR continues to flash, follow the procedures below:

(1). Press POWER (LAMP) ON/OFF button to OFF.
(2). Check the air filter for dust accumulation.
(3). Remove dust with vacuum cleaner (See air filter care and cleaning on page 19.)
(4). Press POWER (LAMP) ON/OFF button to ON.

If the TEMPERATURE WARNING INDICATOR still continues to flash, call your authorized distributor for service.

TO TURN OFF THE PROJECTOR (with the remote control unit)

Press the POWER (LAMP) ON/OFF button on the remote control unit to OFF. The POWER indicator will light bright and READY indicator will turn off. The cooling fan will operate for 1 minute after the projector is turned off. (During this "cooling down" period, the projector can not be turned on.) After 1 minute, the READY indicator will light green again and the projector may be turned on by pressing the POWER (LAMP) ON/OFF button on the remote control unit.

NOTE: Remote control unit can be activated only when POWER (LAMP) ON/OFF button on the projector is pressed to ON.

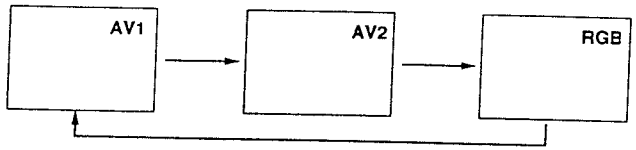
TO TURN OFF THE PROJECTOR (without the remote control unit)

Press the POWER (LAMP) ON/OFF button on the projector to OFF. The POWER and READY indicator will turn off. The cooling fan will operate for 1 minute after the projector is turned off. (During this "cooling down" period, the projector can not be turned on.) After 1 minute, the READY indicator will light green again and the projector may be turned on by pressing the POWER (LAMP) ON/OFF button on the projector.

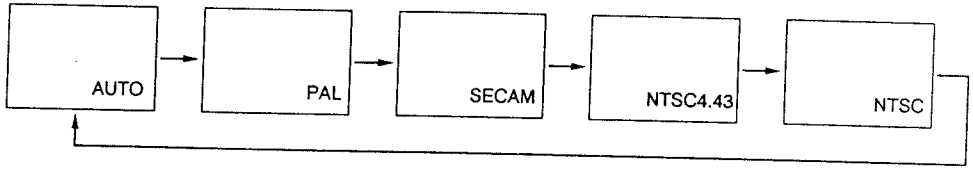
NOTE: If the projector is turned off by the remote control unit, it can be turned back on without the remote by pressing the POWER (LAMP) ON/OFF button on the projector **twice.**

ADJUST THE PROJECTOR

VIDEO MODE SELECT
Press the VIDEO MODE select button (located on projector or remote control unit) to select Video Input-1, Video Input-2 or "RGB" Input. The "AV1", "AV2" or "RGB" display will appear on the screen.

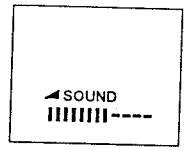


COLOUR SYSTEM SELECT
Press the COLOUR SYSTEM select button (located on projector or remote control unit) to select AUTO, PAL, SECAM, NTSC4.43 or NTSC.
Each time Colour System select button is pressed, the colour system changes as follows:

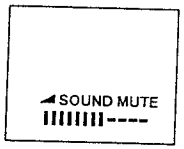


When the colour system is set to "AUTO" position, this projector can receive colour programs from one of the 4 systems (PAL, SECAM, NTSC4.43 or NTSC), automatically.
If the picture quality is poor, make sure the proper colour system is selected to match the video source.

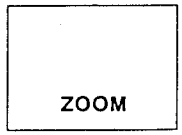
VOLUME ADJUSTMENT
Press INT. SP ON/OFF button to ON(IN) position when the INTERNAL SPEAKER is used.
Press LEVEL buttons on the projector, or VOLUME buttons on the remote control unit to adjust the volume. The screen display will appear.
Pressing (+) will increase volume and the green indicator will increase to the right on the screen.
Pressing (-) will decrease volume and the green indicator will decrease to the left on the screen.
Press INT. SP ON/OFF button to OFF (OUT) position, will disengage the internal speaker on the projector.



SOUND MUTE ADJUSTMENT
Pressing SOUND MUTE button on the remote control unit will mute audio (Sound Mute display will appear). Press SOUND MUTE button again to restore audio to its previous level.

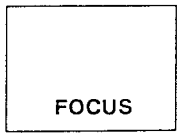


ZOOM ADJUSTMENT (Without remote control unit)
Press ZOOM/FOCUS button until zoom display will appear on the screen, and press LEVEL (+) or (-) to obtain your desired picture size. (The zoom display will appear for 5 seconds.) For the larger size, press (+) and for the smaller size, press (-).



ZOOM ADJUSTMENT (With remote control unit)
Press ZOOM (∧) or (∨) to obtain your desired picture size. (The zoom display will appear for 5 seconds.) For the larger size, press (∧) and for the smaller size, press (∨).

FOCUS ADJUSTMENT (Without remote control unit)
Press ZOOM/FOCUS button until focus display will appear on the screen, and press LEVEL (+) or (-) for sharper, crisper picture. (The focus display will appear for 5 seconds.)



FOCUS ADJUSTMENT (With remote control unit)
Press FOCUS (∧) or (∨) for sharper, crisper picture. (The focus display will appear for 5 seconds.)

COLOUR AND PICTURE ADJUSTMENT
The normal picture level is factory preset on the projector and can be obtained anytime by pressing the NORMALIZATION button on the projector, or on the remote control unit.
The picture level adjustment can be made by using the FUNCTION and LEVEL buttons on the projector, or on the remote control unit.

OTHER FEATURES

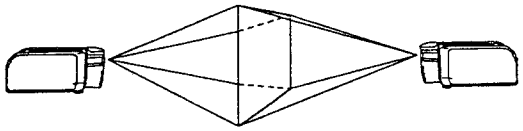
SUPERIMPOSE
Pressing SUPERIMPOSE button on the projector produces white character and lines on a blue background.

BLUE BACK
Pressing BLUE BACK button on the projector to project the blue image without video noise on the screen when the video source is unplugged or turned off.

EXPAND
Press EXPAND button on the remote control unit to expand the center portion of the image twice. This function is cancelled when the EXPAND button is pressed again or any other function button is pressed.

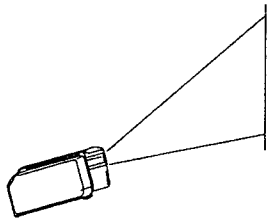
REVERSE PICTURE SCANNING
The versatile left/right picture reverse capability lets you project onto the screen from in front or behind.

• Press the REVERSE PICTURE SCANNING button on the projector, if required.

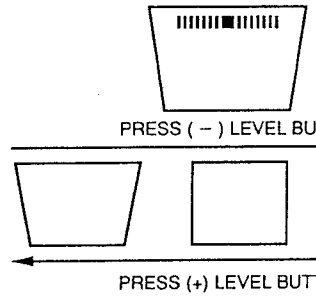


KEYSTONE CORRECTION
When the projector is used at upper or lower position, keystone distortions appear at the bottom or top of the screen. The keystone can be corrected as follows:

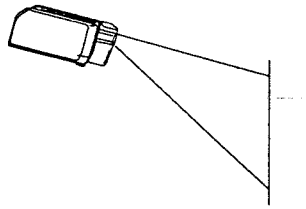
• LOW MOUNT PROJECTION
If the projector is mounted low, the keystone will appear at the top of the screen. Press keystone button on the projector, or remote control unit using the tip of a ball-point pen until the bar appears on the top of the screen.
Press the level (-) button until the keystone is corrected.



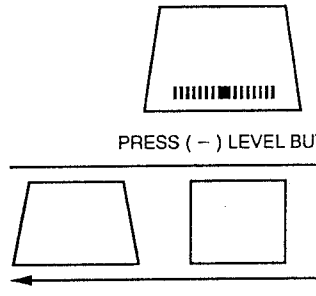
TOP KEYSTONE CORRECTION DISPLAY



• HIGH MOUNT PROJECTION
If the projector is mounted high, the keystone will appear at the bottom of the screen. Press keystone button on the projector, or remote control unit using the tip of a ball-point pen until the bar appears on the bottom of the screen.
Press the level (-) button until the keystone is corrected.



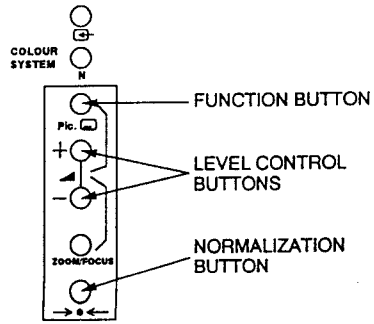
BOTTOM KEYSTONE CORRECTION DISPLAY



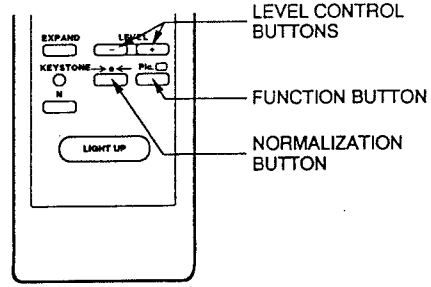
NOTE: The projector is equipped with a built-in memory feature that eliminates the need to readjust the keystone each time the projector is turned off and the AC power cord is disconnected.

9 PICTURE AND SOUND ADJUSTMENTS

INSIDE CONTROLS OF THE PROJECTOR

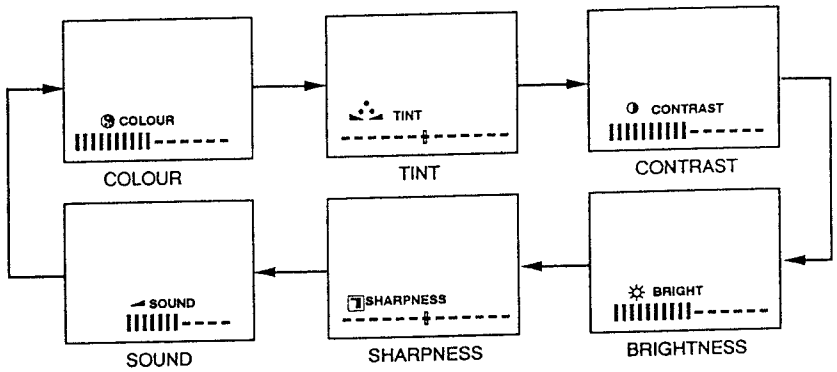


REMOTE CONTROL UNIT



Picture and sound adjustments have been preset at the factory to our quality standards. However, with the FUNCTION and LEVEL buttons on the projector or on the remote control unit you can make picture and sound adjustments you personally prefer.

1. Select the picture and sound adjustments function by pressing FUNCTION button.
   Each time FUNCTION button is pressed, the control function changer as follows:



NOTE: 1. "SOUND" will be appears, only when FUNCTION button above the projector is pressed.
2. "TINT" will be skipped during in the PAL and SECAM mode.

2. Adjust the colour intensity, tint, contrast, brightness, sharpness or sound by pressing LEVEL (+ and -) buttons.

- Press the LEVEL CONTROL buttons to make adjustments.
  Refer to the control chart below.

COLOUR	DECREASES ◄——► INCREASES
TINT	MORE PURPLE ◄——► MORE GREEN
CONTRAST	SOFTER ◄——► SHARPER
BRIGHTNESS	DARKER ◄——► BRIGHTER
SHARPNESS	SOFTER ◄——► SHARPER
SOUND	DECREASES ◄——► INCREASES

3. The ON-SCREEN display will disappear automatically in 8 seconds.

NOTE: The projector is equipped with a built-in memory feature that can maintain the picture and sound level adjustment to set on AV1 and AV2/RGB respectively even if the projector is turned off and AC power cord is disconnected. If NORMALIZATION button is pressed, the projector will return to factory preset level.

10 CONNECTING THE PROJECTOR

Your projector is equipped with various audio/video inputs and outputs including S-VHS video input and 21-pin terminals.

CONNECTING TO THE AV1 INPUT JACKS

Connect to the video and audio outputs of a VCR, video disc player, video camera, satellite TV tuner or other AV equipment.

- If the audio signal from the AV equipment is stereo, be sure to connect the right and left channels to the respective right and left audio input jacks.
- If the external audio signal is monaural, connect it to the left jack.

S-VHS FORMAT VCR CONNECTION

The AV1 input includes an extra video input jack marked S-VIDEO to allow connection to an S-VHS format VCR that has separate Y/C video signals. The S-VIDEO jack has priority over the VIDEO jack.

CONNECTING TO THE AV2 21-PIN TERMINAL

VCR, Video disc player or other AV equipment can be connected to the 21-pin terminal on the rear of the projector.
When the 21-pin terminal is used for connection of AV equipment, note the following points.

- When using the equipment with the output function signal into PIN No. 8 of 21-pin terminal below, the VIDEO MODE is automatically set to "AV2" and VIDEO MODE selection is not required. And when using equipment without the output function signal, press VIDEO MODE select button on the projector or remote control to select "AV2" mode.
- When using the equipment with RGB output signal and without the control signals for PIN No. 8 and 16 of 21-pin terminal below, press VIDEO MODE select button to select "RGB" mode, and when using equipment with both RGB output signal and the control signals, the VIDEO MODE is automatically set to "AV2" mode and VIDEO MODE selection is not required.

CONNECTING TO THE AUDIO MONITOR OUTPUT JACK

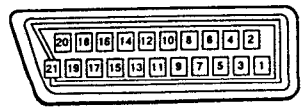
These jacks will contain the audio information of the selected program source being viewed on the screen. If you have selected program source AV1 the audio signals connected to the AV1 jacks will be available at the audio monitor output jacks.

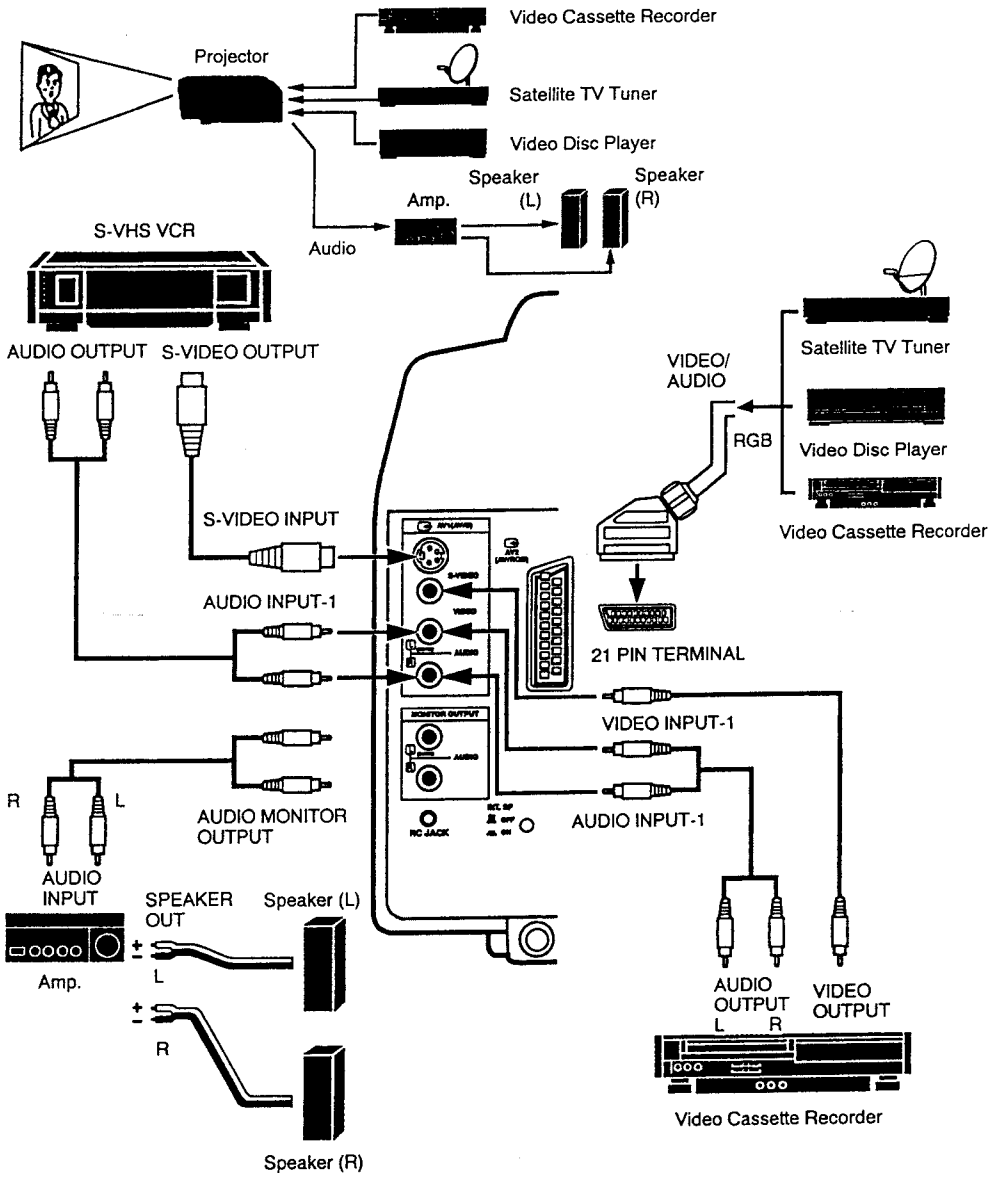
- If the audio input of the audio equipment is stereo, be sure to connect the right and left channels to the respective right and left jacks.
- If the audio input of the audio equipment is monaural, connect it to the left jack.

Specification of 21-pin terminal

Pin No.	Signal		Pin No.	Signal	
1.	Audio output (right channel)	0.5 Vrms/ ≦ 1 K ohm	11.	Green (G) input	0.7 Vp-p /75 ohm
2.	Audio input (right channel)	0.5 Vrms/ ≧ 10 K ohm	12.	Not used	———
3.	Audio output (left channel)	0.5 Vrms/ ≦ 1 K ohm	13.	Earth (red)	———
4.	Earth (audio)	———	14.	Earth	———
5.	Earth (blue)	———	15.	Red (R) input	0.7 Vp-p/75 ohm
6.	Audio input (left channel)	0.5 Vrms/ ≧ 10 K ohm	16.	Fast blanking	L: 0-0.4V, H:1-3V
7.	Blue (B) input	0.7 Vp-p 75 ohm	17.	Earth (video)	———
8.	Function switching	L: 0-2V, H-12V	18.	Earth	———
9.	Earth (green)	———	19.	Video sync. output	1 Vp-p/75 ohm
10.	Not used	———	20.	Video sync. input	1 Vp-p/75 ohm
			21.	Earth	———

21-PIN TERMINAL





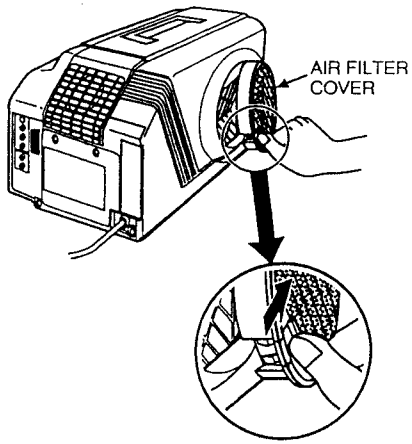
11 AIR FILTER CARE AND CLEANING

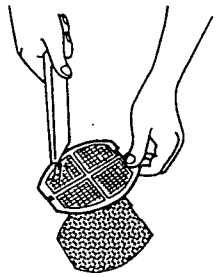
The removable air filter prevents dust from accumulating on the surface of the projection lens and projection mirror. Should the air filter become clogged with dust particles, it will reduce the cooling fan's effectiveness and may result in internal heat built up and reduced the life of the projection lamp.

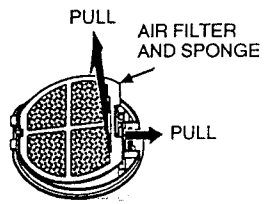
To clean the air filter, follow the cleaning procedures below:

1. Turn the POWER (LAMP) ON/OFF button OFF.
2. Remove the air filter cover from the side of the projector.
3. Remove the air filter and sponge from the filter cover.
4. Clean the air filter and sponge with a vacuum cleaner.
5. Replace the air filter and sponge. Make sure that air filter cover is fully inserted.

⚠ Do not clean with water. Doing so may damage the air filter.
Do not operate the projector with air filter removed.







12 LAMP REPLACEMENT & TEMPERATURE WARNING INDICATORS

LAMP REPLACEMENT INDICATOR

When the lamp nears the end of its service life, the picture quality and colour quality will deteriorate and the lamp replacement indicator will light orange.

⚠ **DO NOT ATTEMPT TO REMOVE OR CHANGE THE PROJECTION LAMP. THE LAMP CAN ONLY BE CHANGED BY QUALIFIED SERVICE PERSONNEL.**

TEMPERATURE WARNING INDICATOR

The TEMPERATURE WARNING INDICATOR lights red when the internal temperature of the projector exceeds the normal temperature.
Possible causes for the temperature warning may be:

1. Ventilation slots at the rear or bottom of the projector are blocked. In such an event, reposition the projector so that ventilation slots are not obstructed.

2. Air filter is clogged with dust particles. Remove dust from the air filter by following instructions in the Air Filter Care and Cleaning section above.
   If temperature warning indicator remains on after performing the checks listed above, cooling fan/internal circuits may be malfunctioning. Request service from an authorized distributor or service station.

13 TROUBLE SHOOTING GUIDE

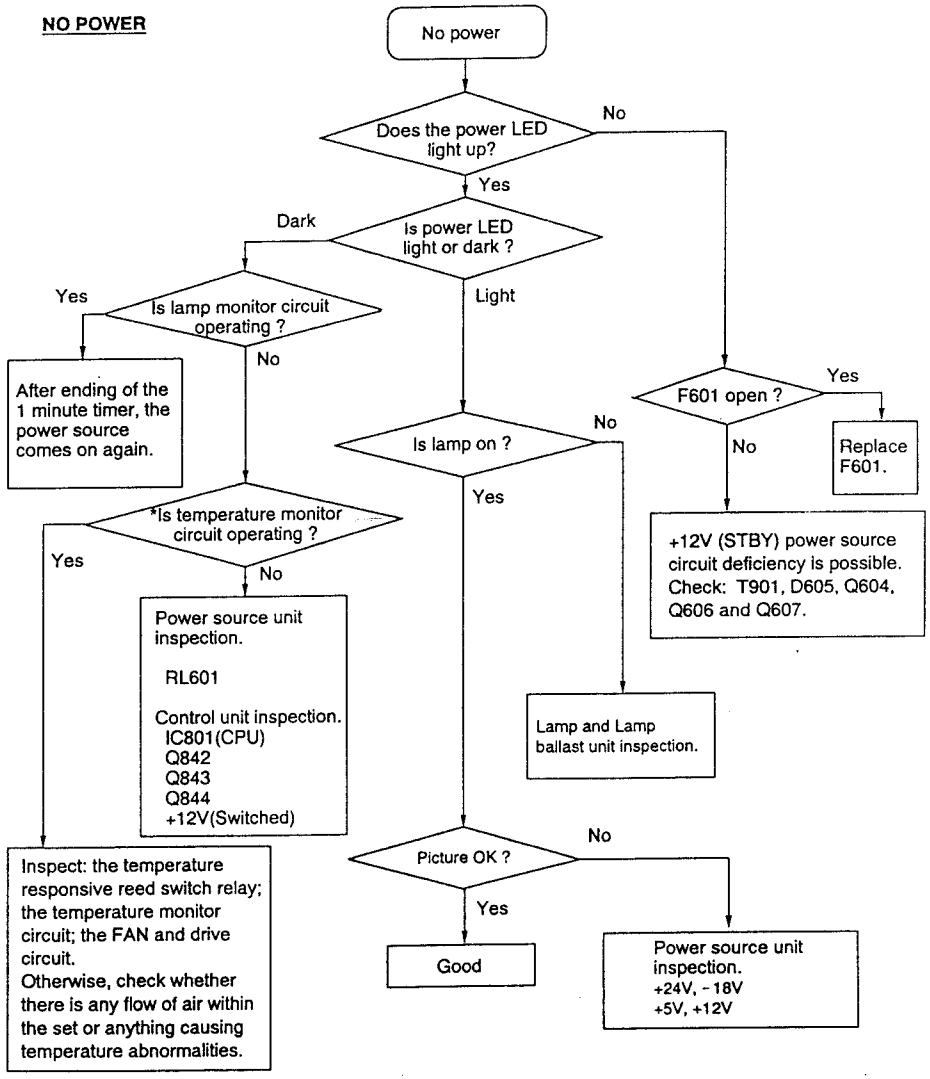
Please perform these simple checks before calling for service.

SYMPTOMS	PROCEDURES
No power	• Plug the projector into an AC outlet. • Press the MAINS ON/OFF button to ON. • Press the POWER (LAMP) ON/OFF button to ON. • Check the READY INDICATOR light ON. • One minute has not passed since LCD projector turned OFF. NOTE: After pressing the POWER (LAMP) ON/OFF button to OFF the projector, the projector functions as follows. 1. The POWER and READY indicator will turn off. 2. The cooling fan will operate for 1 minute after the projector is turned off. (During this "cooling down period, the projector can not be turned on.) 3. After 1 minute, the READY indicator will light green again and the projector may be turned on by pressing the POWER (LAMP)ON/OFF button on the projector or on the remote control unit.
No sound from built-in speaker	• Press the VOLUME (▲) and (▼) to (▲). • Press the INT. SP ON/OFF button to ON. • Check audio cable connection from audio input source.
Picture is reversed	• Press the REVERSE PICTURE SCANNING button.
Picture blurred or colour faded	• Check the projection distance (1.9m~13.4m). • Adjust the FOCUS control. NOTE: Moving the projector from a cool temperature location to a warm temperature location may result moisture condensation on the lens. In such an event, leave the projector OFF and wait until condensation disappears.

TROUBLESHOOTING CHART

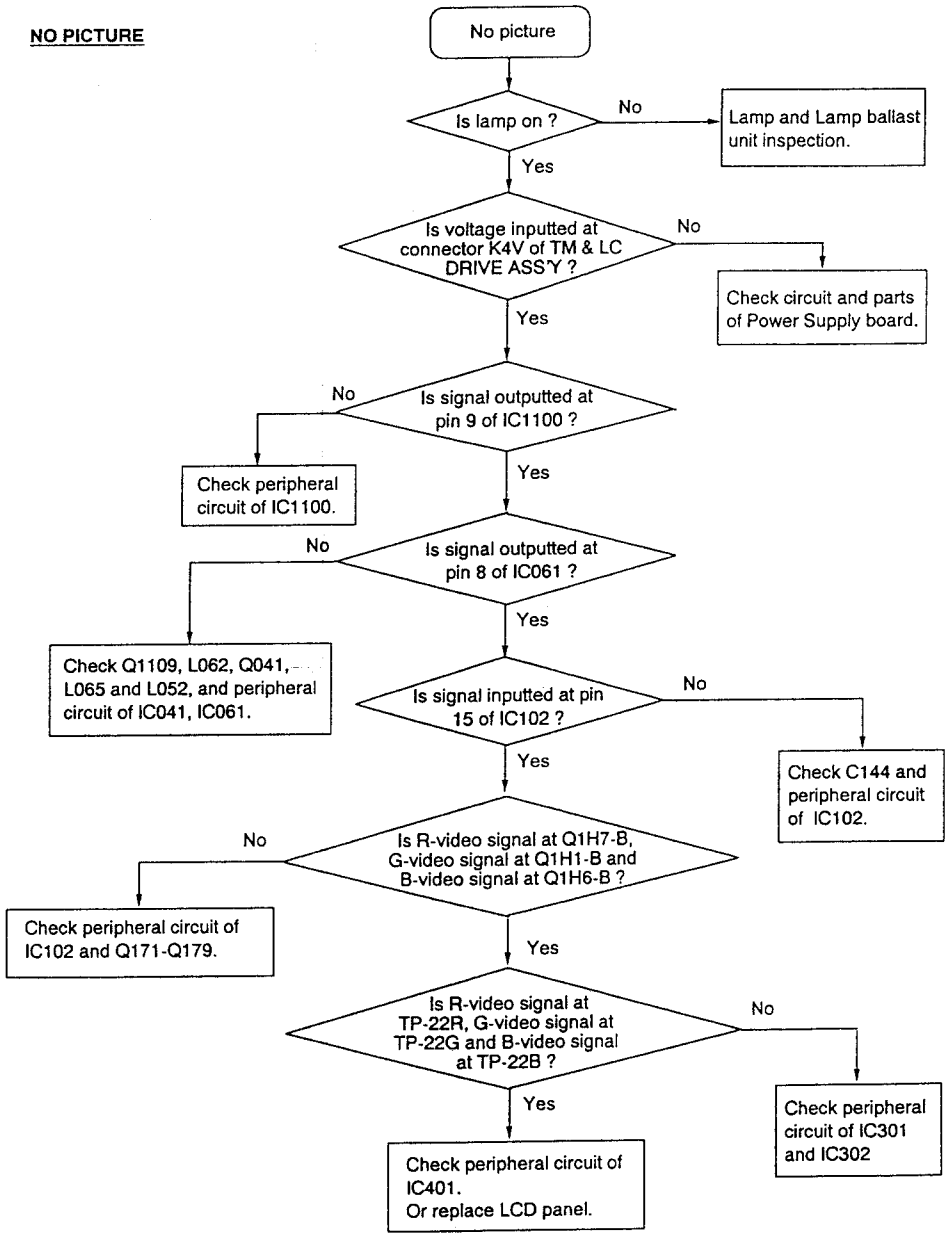
The below chart is troubleshooting guide on a circuit characteristic of this projector and describes the general standard for discovering trouble spots. Please refer to it when performing maintenance. Please use when inspecting inside the unit.

NO POWER

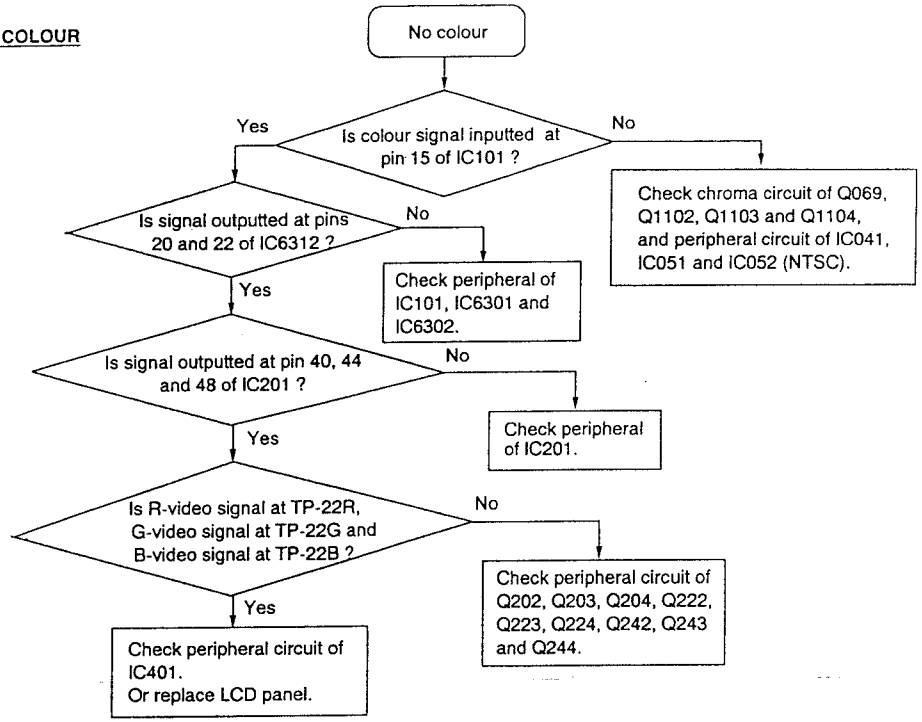


* The temperature responsive reed switch relay (SW904 and SW905) is ON under normal conditions.

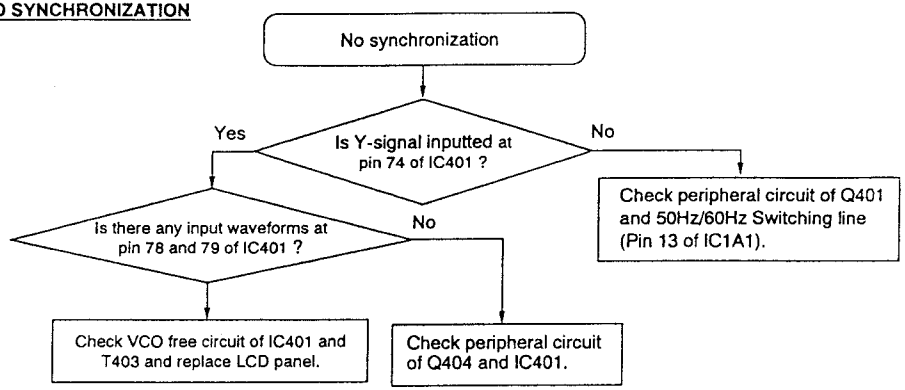
NO PICTURE


No picture
Is lamp on ?
No
Lamp and Lamp ballast unit inspection.
Yes
Is voltage inputted at connector K4V of TM & LC DRIVE ASS'Y ?
No
Check circuit and parts of Power Supply board.
Yes
Is signal outputted at pin 9 of IC1100 ?
No
Check peripheral circuit of IC1100.
Yes
Is signal outputted at pin 8 of IC061 ?
No
Check Q1109, L062, Q041, L065 and L052, and peripheral circuit of IC041, IC061.
Yes
Is signal inputted at pin 15 of IC102 ?
No
Check C144 and peripheral circuit of IC102.
Yes
Is R-video signal at Q1H7-B, G-video signal at Q1H1-B and B-video signal at Q1H6-B ?
No
Check peripheral circuit of IC102 and Q171-Q179.
Yes
Is R-video signal at TP-22R, G-video signal at TP-22G and B-video signal at TP-22B ?
No
Check peripheral circuit of IC301 and IC302
Yes
Check peripheral circuit of IC401.
Or replace LCD panel.

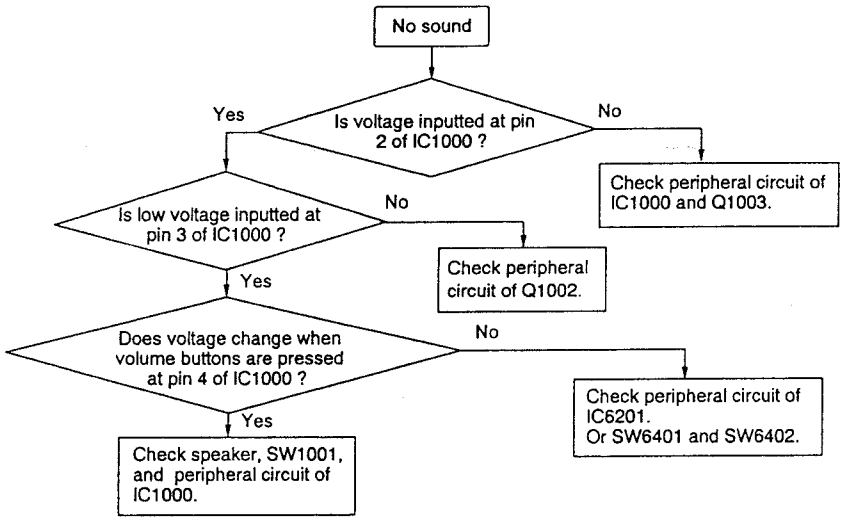
NO COLOUR


No colour
Is colour signal inputted at pin 15 of IC101 ?
Yes
No
Check chroma circuit of Q069, Q1102, Q1103 and Q1104, and peripheral circuit of IC041, IC051 and IC052 (NTSC).
Is signal outputted at pins 20 and 22 of IC6312 ?
No
Check peripheral of IC101, IC6301 and IC6302.
Yes
Is signal outputted at pin 40, 44 and 48 of IC201 ?
No
Check peripheral of IC201.
Yes
Is R-video signal at TP-22R, G-video signal at TP-22G and B-video signal at TP-22B ?
No
Check peripheral circuit of Q202, Q203, Q204, Q222, Q223, Q224, Q242, Q243 and Q244.
Yes
Check peripheral circuit of IC401.
Or replace LCD panel.

NO SYNCHRONIZATION

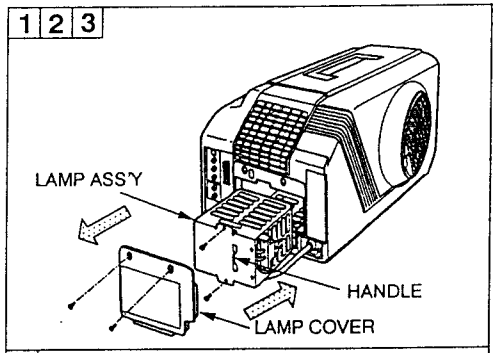

No synchronization
Is Y-signal inputted at pin 74 of IC401 ?
Yes
No
Check peripheral circuit of Q401 and 50Hz/60Hz Switching line (Pin 13 of IC1A1).
Is there any input waveforms at pin 78 and 79 of IC401 ?
No
Check VCO free circuit of IC401 and T403 and replace LCD panel.
Check peripheral circuit of Q404 and IC401.

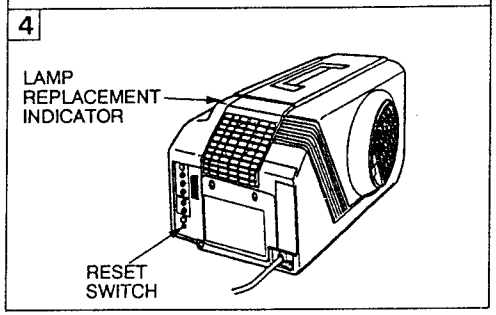
NO SOUND


No sound
Is voltage inputted at pin 2 of IC1000 ?
Yes
No
Check peripheral circuit of IC1000 and Q1003.
Is low voltage inputted at pin 3 of IC1000 ?
No
Check peripheral circuit of Q1002.
Yes
Does voltage change when volume buttons are pressed at pin 4 of IC1000 ?
No
Check peripheral circuit of IC6201. Or SW6401 and SW6402.
Yes
Check speaker, SW1001, and peripheral circuit of IC1000.

LAMP REPLACEMENT

WARNING
THIS LAMP IS OPERATED UNDER HIGH PRESSURE.
FOR CONTINUED SAFETY, REPLACE WITH A LAMP OF THE SAME TYPE.
UNPLUG THE PROJECTOR FROM THE POWER OUTLET BEFORE THE PROJECTION LAMP IS REPLACED.
DO NOT ATTEMPT TO CHANGE A HOT LAMP.
BE CAREFUL NOT TO TOUCH THE LAMP OR MIRROR WITH OILY FINGERS.





1
1. Remove 2 screws and lamp cover.

2
1. Remove 2 screws on the lamp ass'y.
2. Grip the handle and pull out the lamp ass'y carefully.

3
1. Replace with new lamp ass'y.
2. Install the lamp cover.

4
1. Connect the AC power cord to an outlet, and turn power on.
2. Wait 1 minute after turning power on.
3. Press the RESET SWITCH for 2 seconds.

Note: The "RESET" display will appear on the screen and the lamp replacement indicator disappears.

RECOMMENDATION
Should the air filter become clogged with dust particles, it will reduce the cooling fan's effectiveness and may result in internal heat build up and short lamp life. We recommend cleaning the air filter after the projection lamp is replaced.
Refer to AIR FILTER CARE AND CLEANING on the page 19.

HOW TO CHECK THE LAMP ILLUMINATION TIME

1. Checking procedure

   With the projector in operating mode, press the LEVEL "+" or " – " button for 30 seconds; four red alphabets will appear on the screen for 5 seconds.

2. Calculation of illumination

$$\text{ILLUMINATION TIME} = 1000 - \frac{8 \times (B \times 4096 + M \times 256 + F \times 16 + L)}{60}$$

Note: If the RESET button is pressed, the data of illumination time will be initialized.

3. Alphabet – number conversion table

   A --- 0 B --- 1 C --- 2 D --- 3 E --- 4 F --- 5 G --- 6 H --- 7 I --- 8
   J --- 9 K --- 10 L --- 11 M --- 12 N --- 13 O --- 14 P --- 15

4. Calculation example

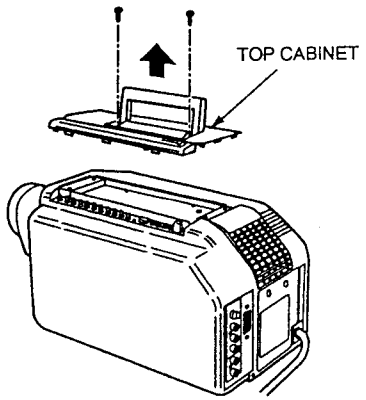
$$1000 - \frac{8 \times (1 \times 4096 + 12 \times 256 + 5 \times 16 + 11)}{60} \fallingdotseq 32$$

Approx. 32 hour of illumination

BMFL

MECHANICAL DISASSEMBLIES

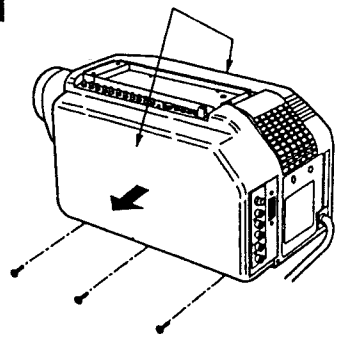
1



TOP CABINET REMOVAL

1. Remove 2 screws, on the top cabinet.
2. Then pull the top cabinet upward and remove.

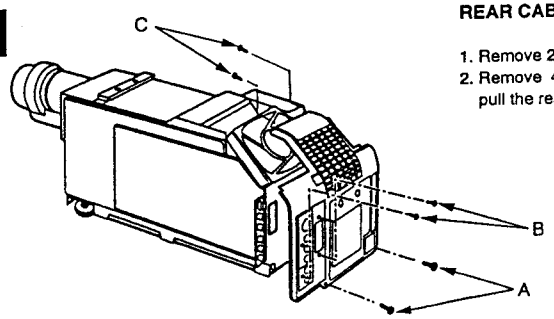
2



SIDE CABINETS REMOVAL

1. Remove 3 screws, on the bottom of the side cabinet.
2. Then pull the side cabinet sideward and remove.
3. Remove the another side cabinet, repeat steps 1 and 2.

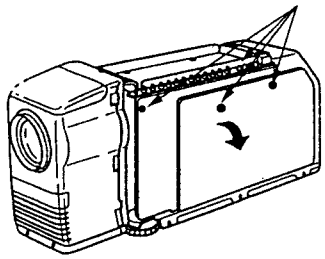
3



REAR CABINET REMOVAL

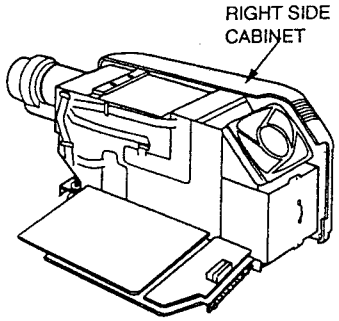
1. Remove 2 screws-A, then remove the lamp cover.
2. Remove 4 screws-B and remove 2 screws-C, then pull the rear cabinet backward and remove.

4



LEFT SIDE BOARD EXTEND

1. Remove 3 screws on the left side board and remove screw on LED supporter.
2. Gently extend the left side board sideward.



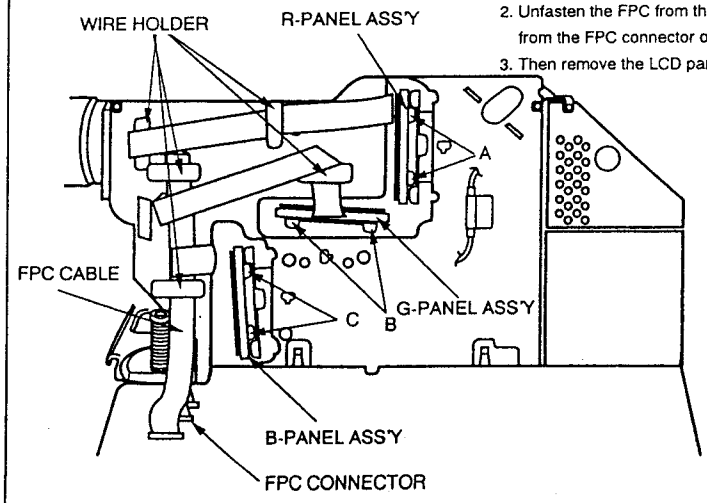
SERVICE NOTE

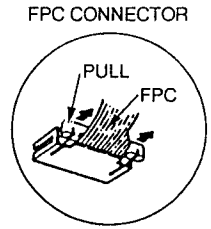
When you adjustment of every kind with projector on condition, to prevent dust coming into the projector, attach the right side cabinet to the projector certeinly.

5

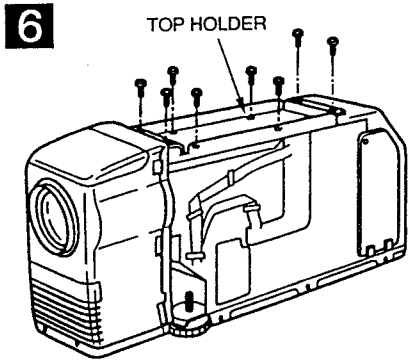
REMOVAL OF LCD PANEL ASS'Y

1. If changing the LCD panel ass'y, remove the 2 screws-A for the R-Panel, the 2 screws-B for the G-Panel, and the 2 screws-C for the B-Panel.
2. Unfasten the FPC from the wire holders and disconnect FPC from the FPC connector on main board.
3. Then remove the LCD panel ass'y from the panel retainer.





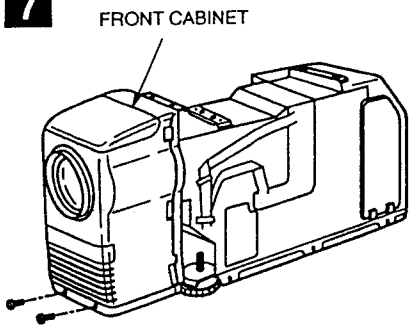
6



TOP HOLDER REMOVAL

1. Remove 8 screws on the top holder.
2. Then pull the top holder upward and remove.

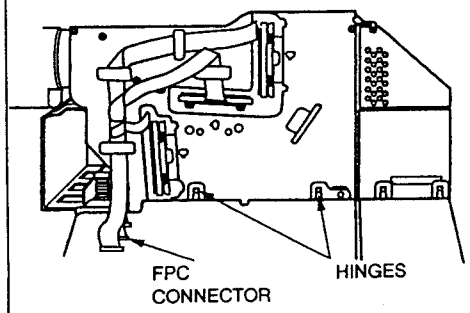
7



FRONT CABINET REMOVAL

1. Remove 2 screws on the front cabinet.
2. Gently slide the front cabinet, then remove screw on the remote control pre-amp. holder and remove 4 screws on the speaker.
3. Then pull the front cabinet forward and remove.

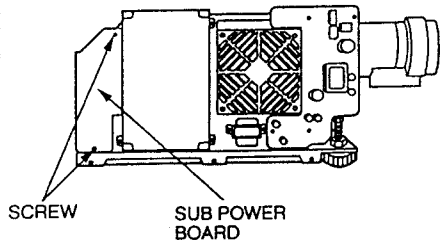
8



LEFT SIDE BOARD REMOVAL

1. Disconnect the 3 FPC from the FPC connector on board.
2. Push the 2 Hinges, then remove from the board.
3. Disconnect the connectors "K4V", "K8M", "K8J", "K8U", "K8T", "K10H" and "K10T" from the board.

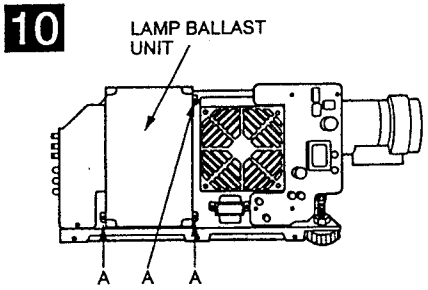
9

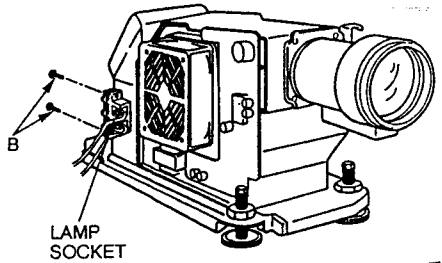


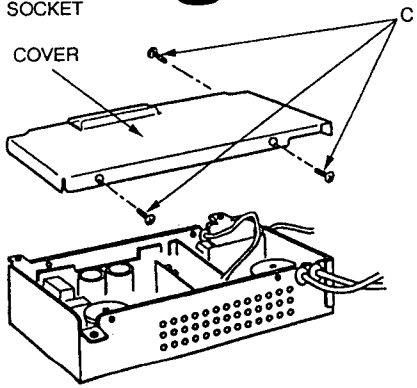
SUB POWER BOARD REMOVAL

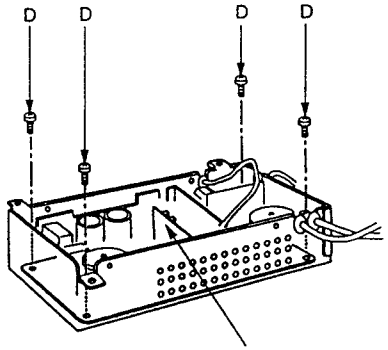
Remove 2 screws on the sub power board.
Then remove the sub power board.

10





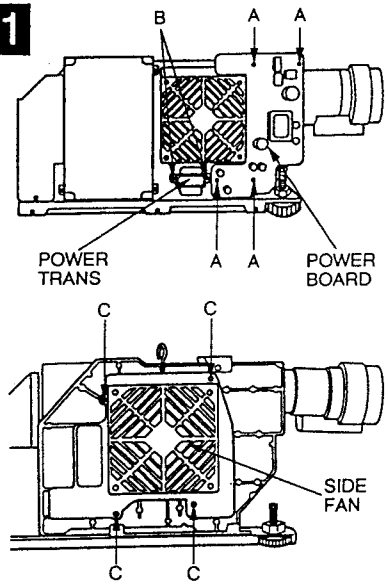




LAMP BALLAST UNIT REMOVAL

1. Remove 3 screws-A on the lamp ballast unit.
2. Remove lamp ass'y. (Refer to LAMP REPLACEMENT on the page 25.)
3. Remove 2 screws-B on the lamp socket.
4. Disconnect the Connectors "K6F" and "K8D" from other board.
5. Remove 3 screws-C, then pull out the cover and remove.
6. Remove 4 screws-D, on the corner of the lamp ballast board ass'y.
7. Remove the lamp ballast board ass'y from the case.

11



POWER BOARD REMOVAL

Remove 4 screws-A on the power board. Then remove the power board

POWER TRANS REMOVAL

Remove 2 screws-B on the power trans. Then remove the power trans.

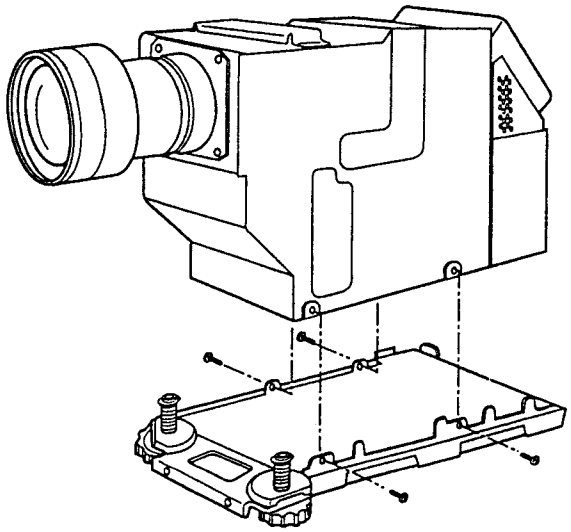
SIDE FAN REMOVAL

Remove 4 screws-C on the side fan. Then remove the side fan.

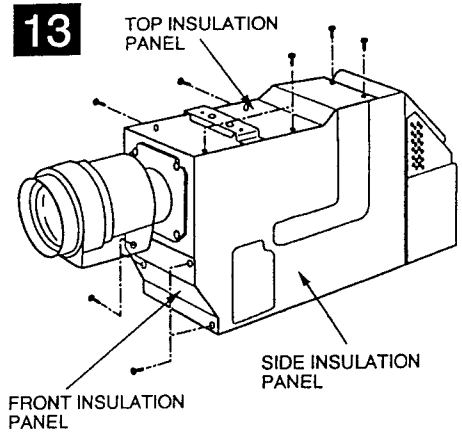
12

LCD UNIT REMOVAL

1. Remove 4 screws on the bottom of the LCD unit.
2. Then pull the LCD unit upward and remove from bottom cabinet.



13

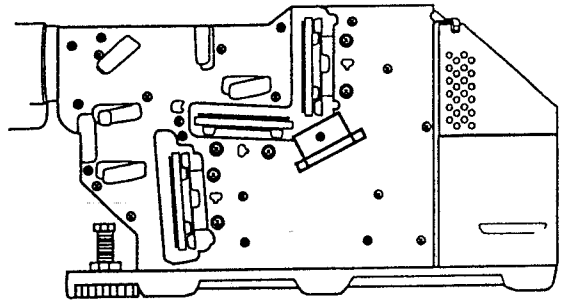


INSULATION PANEL REMOVAL

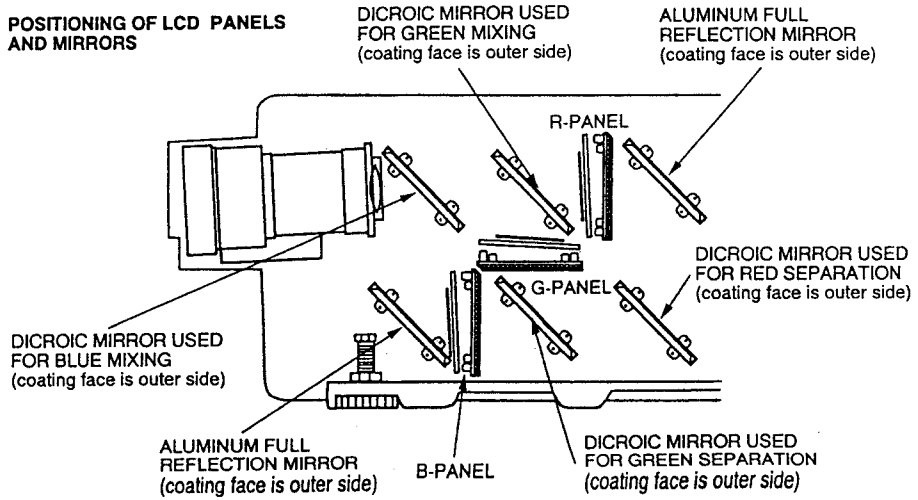
TOP INSULATION PANEL REMOVAL
1. Remove 6 screws on the top insulation panel.
2. Then pull the top insulation panel upward and remove.

FRONT INSULATION PANEL REMOVAL
1. Remove 4 screws on the front insulation panel.
2. Then pull the front insulation panel foward and remove.

SIDE INSULATION PANEL REMOVAL
1. Unfasten the FPC from the 5 wire holders.
2. Remove 9 screws (large, ●), 13 screws (small, ⊕) and 6 screws (with washer, ⊕) on the side insulation panel.
3. Then pull the side insulation panel sideward and remove.



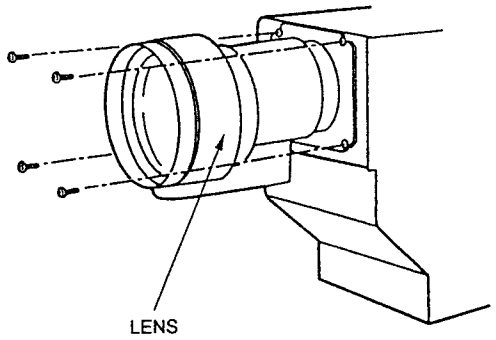
POSITIONING OF LCD PANELS AND MIRRORS


DICROIC MIRROR USED FOR GREEN MIXING (coating face is outer side)
ALUMINUM FULL REFLECTION MIRROR (coating face is outer side)
R-PANEL
DICROIC MIRROR USED FOR RED SEPARATION (coating face is outer side)
G-PANEL
DICROIC MIRROR USED FOR BLUE MIXING (coating face is outer side)
ALUMINUM FULL REFLECTION MIRROR (coating face is outer side)
B-PANEL
DICROIC MIRROR USED FOR GREEN SEPARATION (coating face is outer side)

14

LENS REMOVAL

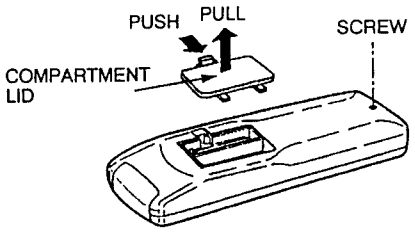
1. Keep holding the lens and remove 4 screws fixing the lens.
2. Remove the lens from the unit.

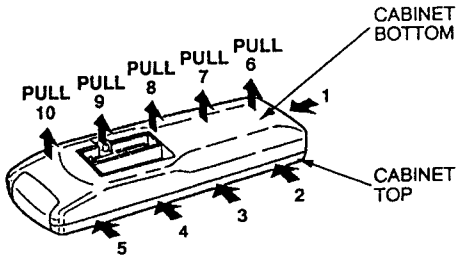


15

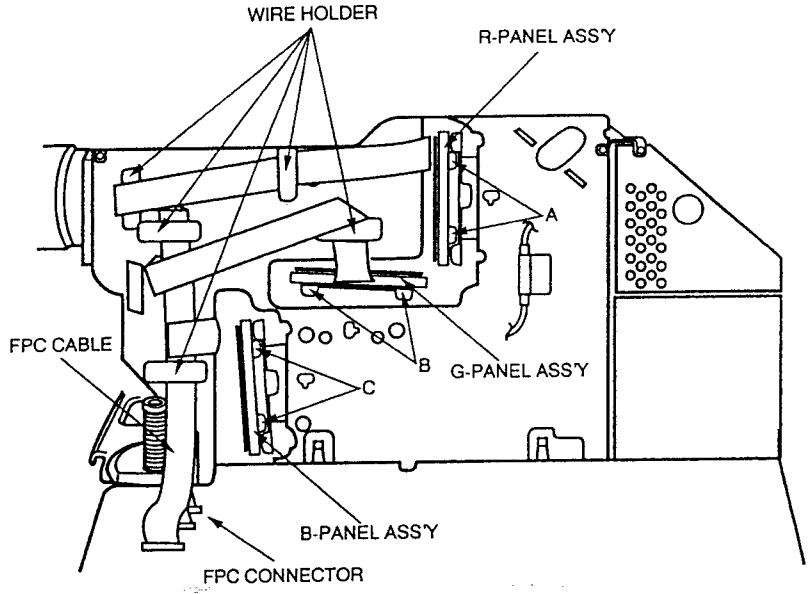
REMOTE CONTROL TRANSMITTER DISASSEMBLY

1. Remove the screw.
2. Push and pull the battery compartment lid, and remove the battery compartment lid.
3. Insert slot type screwdriver to the space of cabinet bottom and cabinet top (1-5), and twist it. Then pull the cabinet bottom (6-10), and remove the cabinet bottom.

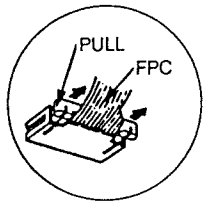




LCD PANEL ASS'Y REPLACEMENT



FPC CONNECTOR



1. Changing the LCD Panel Ass'y, remove the 2 screws-A for the R-Panel, the 2 screws-B for the G-Panel, and the 2 screws-C for the B-Panel.
2. Unfasten the FPC from the wire holders and disconnect FPC from the FPC connector on main board.
3. Then remove the LCD panel from the panel retainer.
4. For installation of the new panel, reverse the above procedures.

After replacing an LCD panel, check the focus (refer to Focus Adjustments) and adjust the convergence (refer to Convergence Adjustment).

When replacing the R - LCD panel, check the R focus and adjust the convergence.
When replacing the B - LCD panel, check the B focus and adjust the convergence.
When replacing the G - LCD panel, after checking the G focus, also check the R and B convergence.

Adjust the R and B convergence if either one is out of alignment. (Alignment of G with R and B can also be made by adjusting the position of the G panel.)

CONVERGENCE ADJUSTMENTS

For convergence adjustment, with G (green) as the reference standard, align R and B by adjusting the position and angle of the R (red) and B (blue) LCD panels.

Before Adjustment:
Make sure each R, G, B LCD panel unit has been correctly installed, and that all focus adjustments have been completed before performing convergence adjustments.(See Focus Adjustments)

Below is an explanation regarding adjustment screws and panel movement.
4 Screws "1" shown in Fig.2, hold the LCD panels in place (hex hole screws).
Screws "A", "B" and "C" shown in Fig.2 are for convergence adjustment.
The movement of the R and B patterns using the "A", "B"and "C" screws is as follows:

R Panel Adjustment

1. Insert paper, etc. in location A shown in Fig.1 to block the B light.

2. Loosen 4 screws "1" on the R panel. (Refer to Fig.2)

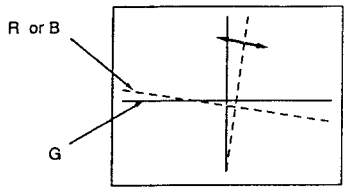
3. Using screws "A" and "B" (Fig.2), align the R grid pattern vertical center line parallel with the G grid pattern vertical center line (at this time the horizontal line will also be parallel).
   Adjust the "A", "B" screws with a slot type screwdriver.

4. Turn both "A" and "B" screws in the same direction to align the R vertical center line on top of the G vertical center line. Repeat procedures 3 and 4 if necessary.

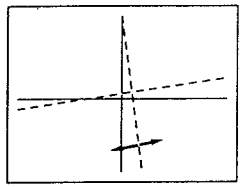
5. Turn screw "C" by slot type screw driver to align the R horizontal center line on top of the G horizontal center line.

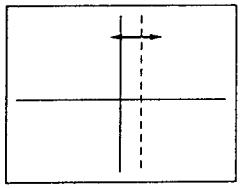
6. By repeating steps 3 thru 5, align the R grid pattern directly on top of the G grid pattern.
   Convergence adjustment is always made on the center of the grid pattern. There may be some color misalignment on the periphery of the screen.

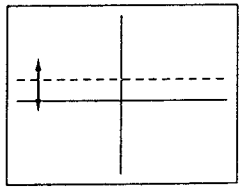
7. Tighten the R panel screws "1" when adjustment has been completed.



Screw A


Screw B


Screws A and B


Screw C

B Panel Adjustment

1. Insert paper, etc. in location B shown in Fig.1 to block the R light.

2. Loosen 4 screws "1" on the B panel. (Refer to Fig.2)

3. The adjustment procedures for aligning the B grid pattern on top of the G grid pattern are the same as those for the R panel.

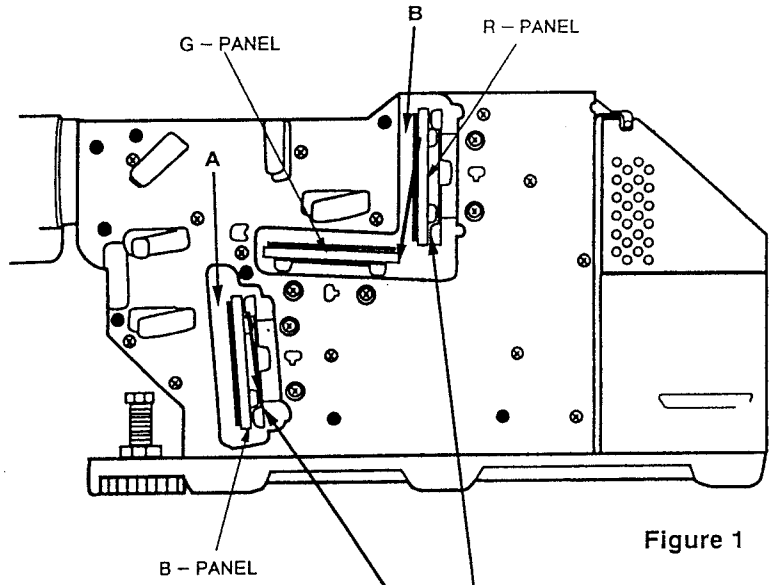


Figure 1

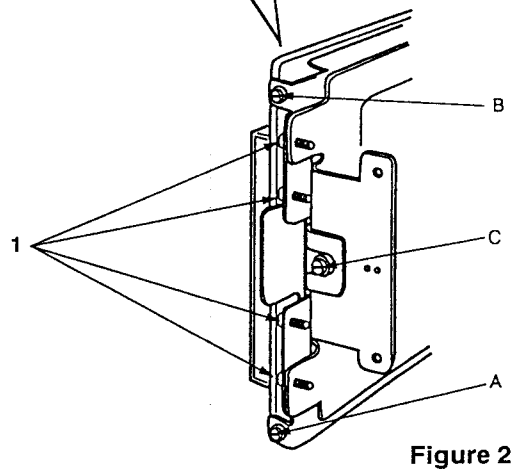


Figure 2

FOCUS ADJUSTMENTS

When conducting focus adjustment, first adjust the G (green) LCD panel unit as the standard reference. Next align the focus for R (red) and B (blue) by adjusting the position of each panel unit.
For adjustment, the setting configuration for the unit is as shown in Fig.1, Fig.2 and Fig.3.

The pattern signal used for adjustment should be a pattern in which the R, G and B dots are easily distinguishable. (A flat pattern, etc.)

G-LCD Panel Unit Position Adjustment (G Focus Adjustment)

1. Turn on the power to the unit, and project the adjustment pattern on the screen.

2. Insert paper, etc. in locations B and C as indicated in Fig.1 to block the B light and R light, and project only the G light. Set the focus control to initial (mid) position and set zoom control to minimum position use control on RC transmitter or projector.

3. Loosen screws "1" (Fig.1) and screws "2" (Fig.2). Move the G panel unit up or down until the middle right side of the screen is in sharp focus. For adjustment, insert a slot head screwdriver in the adjustment slot "a"(Fig.1). In case of unable to adjust, permit to adjust focus by focus control on RC transmitter or projector.

4. In the same manner, use the slot "b"(Fig.2) and adjust the top left side of the screen is in sharp focus.

5. Then use the slot "c"(Fig.2) and adjust the bottom left side of the screen is in sharp focus.

6. Set zoom control to maximum position. Repeat steps 3-5 until the G focus is in the best position possible, then tighten screws "1" and "2".

R-LCD Panel Unit Position Adjustment (R Focus Adjustment).

Before conducting the R focus adjustment, make sure the G focus adjustment has already been completed.

1. Insert paper, etc. in locations A and B as indicated in Fig.1 to block the G light and B light, and project only the R light.

2. Loosen screws "3" (Fig.1) and screw "4" (Fig.3). Move the R panel unit forward or backward until the middle right side of the screen is in sharp focus. For adjustment, insert a slot head screwdriver in the adjustment slot "d"(Fig.1).

3. In the same manner, use the slot "e"(Fig.3) and adjust the top left side of the screen is in sharp focus.

4. Then use the slot "f"(Fig.3) and adjust the bottom left side of the screen is in sharp focus.

5. Repeat steps 3-5 until the R focus is in the best position possible, then tighten screws "3" and "4".

B-LCD Panel Unit Position Adjustment (B Focus Adjustment).

Before conducting the B focus adjustment, make sure the G focus adjustment has already been completed.

1. Insert paper, etc. in locations A and C as indicated in Fig.1 to block the G light and R light, and project only the B light.

2. Loosen screws "5" (Fig.1) and screw "6" (Fig.3). Move the B panel unit forward or backward until the middle right side of the screen is in sharp focus. For adjustment, insert a slot head screwdriver in the adjustment slot "g"(Fig.1).

3. In the same manner, use the slot "h"(Fig.3) and adjust the top left side of the screen is in sharp focus.

4. Then use the slot "i"(Fig.3) and adjust the bottom left side of the screen is in sharp focus.

5. Repeat steps 3-5 until the B focus is in the best position possible, then tighten screws "5" and "6".

* Sharp Focus ···· A single dot being clearly distinguishable on the screen.

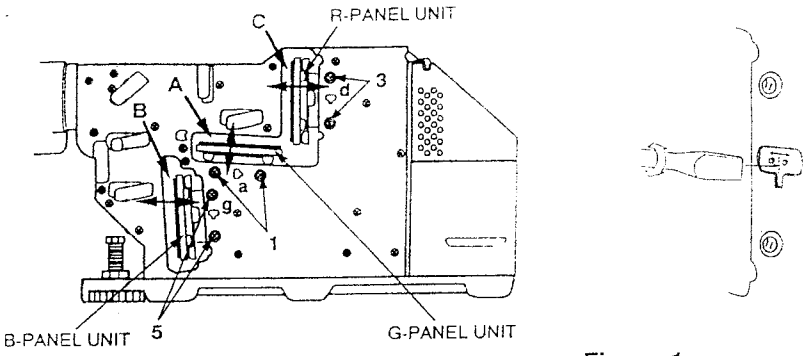


Figure 1

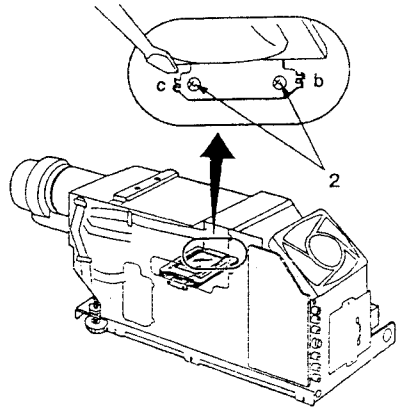


Figure 2

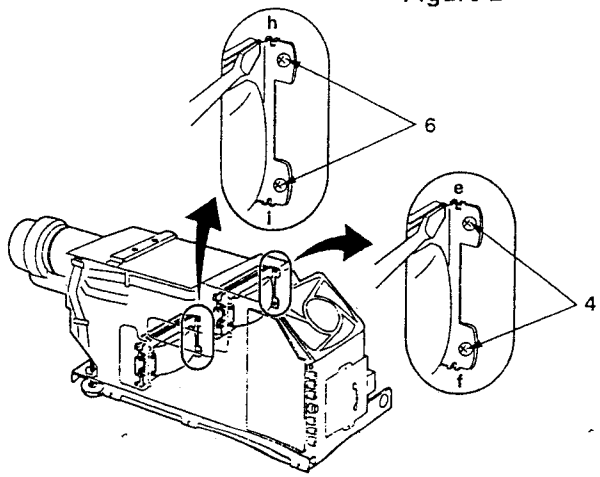


Figure 3

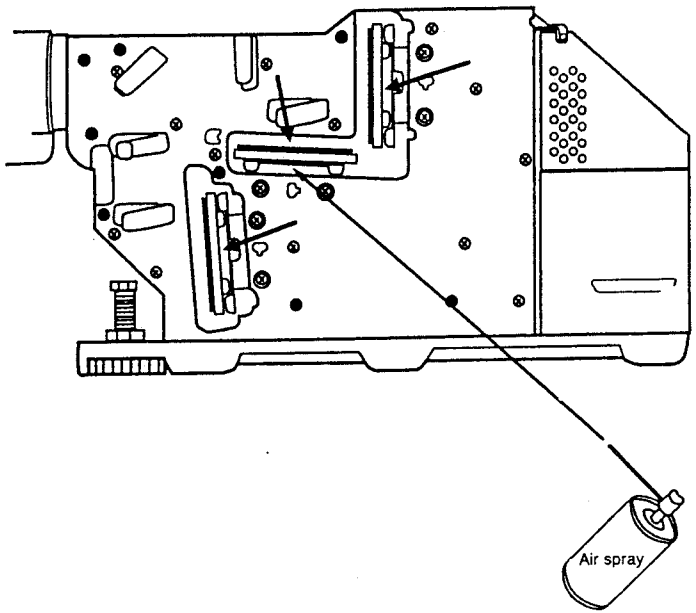
CLEANING METHODS

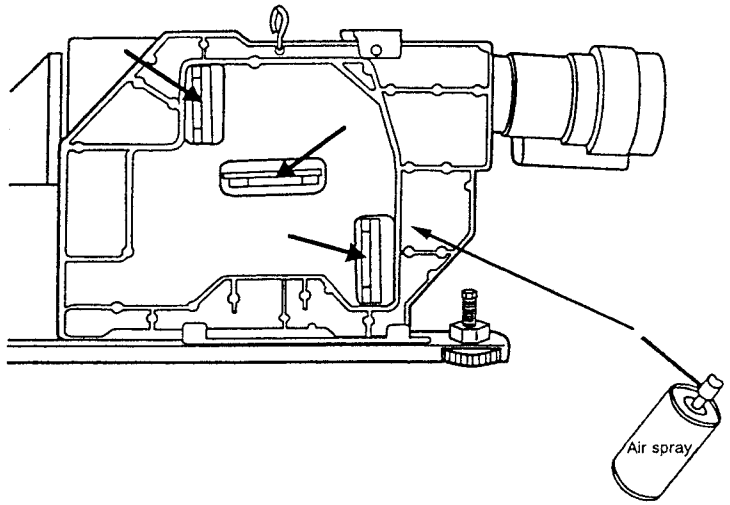
After long periods (many years) of use, dust and particles and other contamination will accumulate on the LCD panel Ass'y (LCD panel and polarizing plate), lens, mirror, etc. and the picture will tend to darken and color blurring may occur.
When this occurs, cleaning of the inside of the unit will be necessary. For dust and light accumulation of contamination, use an air spray to remove the dust. If the contamination cannot be removed by air spray, disassembly and cleaning of the unit will be necessary. Perform all cleaning according to the cleaning methods given below.

Caution:
Use a commercial (insert gas) air spray designed for camera cleaning use. Never use any cleaner other than that specified for cleaning the LCD panel Ass'y (LCD panel and polarizing plate), lens, mirror, etc. Also, never scrape with any hard material as this will cause damage.

Air Spray cleaning Method

Remove dust from the LCD panel Ass'y by inserting the air spray nozzle in the openings on both sides of the sets holding the LCD panel Ass'y. (Caution: Always use a nozzle made of resin. Also be very careful not to cause any damage to the LCD panel assembly parts with the nozzle tip.





Disassembly cleaning Method

After performing disassembly cleaning, adjustment of the unit will be necessary.
Disassembly cleaning should only be performed when there is considerable contamination which cannot be removed by air spray.

Caution:
Never remove the mirror. The position of the mirror is precisely set at the factory. Perform all cleaning of the mirror with it attached to the unit.

Disassemble and clean the LCD panel units.

Disassembly and assembly of the LCD panel units is performed according to the exploded view diagrams given for each panel, cleaning of the mirror is always performed with it attached to the main unit.
Perform the cleaning of each part according to the cleaning methods described below.

● LCD Panels Ass'y (LCD panel and polarizing glass lens)

Remove dust, etc. by wiping with a soft cloth. For heavy contamination, remove by moistening the cloth with alcohol.

Caution:
Never use organic solvents (thinners, etc.) as their use will cause damage to these surfaces.

Never use water or other liquids on the LCD panels ass'y. If the liquid gets into the circuits, damage will result.

● Mirrors

Remove dust, etc. by wiping with a soft cloth. For heavy contamination, remove by moistening the cloth with alcohol.

Caution:
Never use organic solvents (thinners, etc.) as their use will cause damage to these surfaces.

SERVICE ADJUSTMENTS

+12 VOLT (ALWAYS) ADJUSTMENT

EQUIPMENTS ····· Digital voltmeter
CONNECTIONS ····· TP-12V
TE-12V (ground)
INPUT SIGNAL ····· Standard video signal

PICTURE CONDITION ····· Normal position.

ADJUSTMENT: Adjust VR601 to read 12.0 ± 0.1V DC.

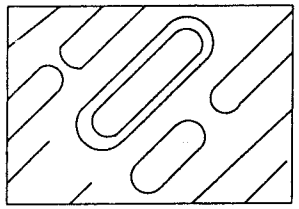
HORIZ. OSC. FREQUENCY ADJUSTMENT

EQUIPMENTS ····· Short clip

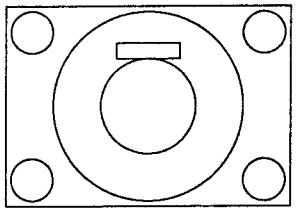
CONNECTIONS ····· TP-1F
TP-1E (ground)

INPUT SIGNAL ····· PAL Circular video signal

ADJUSTMENT: Adjust VR1J1 to below.



Before Adj.



After Adj.

PAL/NTSC COLOUR ADJUSTMENT

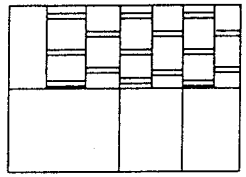
1. CW Adjustment
EQUIPMENTS ····· Short clip

CONNECTIONS ····· TP-1D
TP-1E (ground)

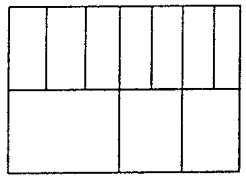
INPUT SIGNAL ····· PAL/NTSC3.58 Colour video signal

PICTURE CONDITION ····· Normal position.

ADJUSTMENT: Adjust VC131(PAL) and VC132(NTSC3.58) to below.



Before Adj.



After Adj.

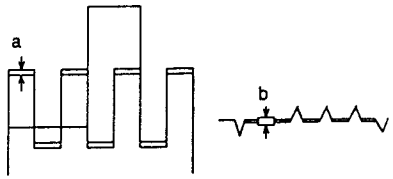
2. PAL Colour Adjustment
EQUIPMENTS ····· Oscilloscope

CONNECTIONS ····· TP-BY
TP-1E (ground)

INPUT SIGNAL ····· PAL Colour video signal

PICTURE CONDITION ····· Normal position.

ADJUSTMENT: By using T121 adjust the amplitude of "a" shown below to be minimum.
By using VR121 adjust the amplitude of "b" shown below to be minimum.



SECAM COLOUR ADJUSTMENT

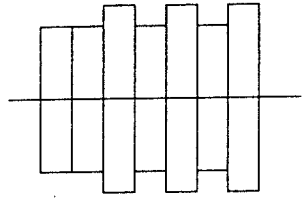
1. Bell-Filter Adjustment
EQUIPMENTS ····· Oscilloscope

CONNECTIONS ····· TP-1A
TP-1E (ground)

INPUT SIGNAL ····· SECAM Colour video signal

PICTURE CONDITION ····· Normal position.

ADJUSTMENT: By using T041 adjust the envelope of the below wave form to be most straight.



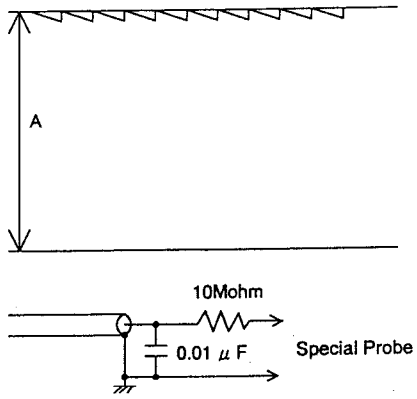
2. SECAM ID Adjustment
EQUIPMENTS ····· Oscilloscope (Special Probe)

CONNECTIONS ····· TP-1C
TP-1E (ground)

INPUT SIGNAL ····· SECAM Colour video signal

PICTURE CONDITION ····· Normal position.

ADJUSTMENT: By using T131 adjust A to be maximum.



3. R-Y Adjustment
EQUIPMENTS ····· Oscilloscope

CONNECTIONS ····· TP-RY
TP-1E (ground)

INPUT SIGNAL ····· SECAM colour video signal

PICTURE CONDITION ····· Normal position.

ADJUSTMENT: By using T112 adjust "a" must be same as center line of "b".

4 B-Y Adjustment
EQUIPMENTS ····· Oscilloscope

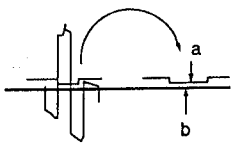
CONNECTIONS ····· TP-BY
TP-1E (ground)

INPUT SIGNAL ····· SECAM colour video signal

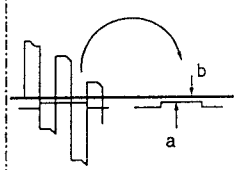
PICTURE CONDITION ····· Normal position.

ADJUSTMENT: By using T111 adjust "a" must be same as center line of "b".

3. R-Y Adj.



4. B-Y Adj.



A/D INPUT ADJUSTMENT

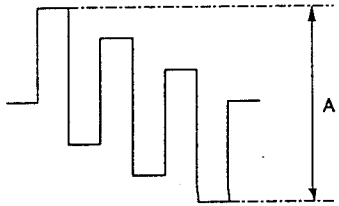
EQUIPMENTS ····· Oscilloscope

CONNECTIONS ····· TP-1X
TP-1H (ground)

INPUT SIGNAL ····· PAL Colour video signal

PICTURE CONDITION ····· Normal position.

ADJUSTMENT: By using VR151 adjust A to be 3 ± 0.2Vp-p



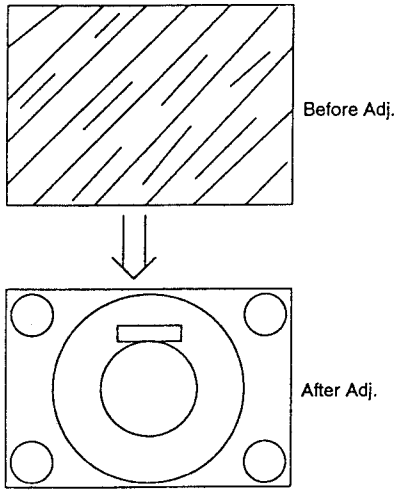
VCO OSC. ADJUSTMENT

1. VCO (18MHz) Adj.
   EQUIPMENTS ····· Digital voltmeter
   CONNECTIONS ····· TP-32
   TE-6 (ground)
   INPUT SIGNAL ····· PAL Circuler video signal
   PICTURE CONDITION ····· Normal position.
   ADJUSTMENT: By using T401, adjust TP-32~TE-6 to be 2.5 ± 0.1V.

2. VCO (15MHz) Adj.
   EQUIPMENTS ····· Digital voltmeter
   CONNECTIONS ····· TP32A
   TE-6 (ground)
   INPUT SIGNAL ····· PAL Circuler video signal
   PICTURE CONDITION ····· Normal position.
   ADJUSTMENT: By using T402, adjust TP-32A~TE-6 to be 2.5 ± 0.1V.

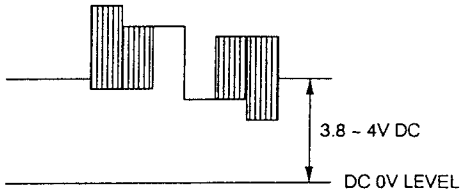
VCO FREE OSC. ADJUSTMENT

EQUIPMENTS ····· Short clip X 2
CONNECTIONS ····· TP-31 to TE-1 (Ground)
TP-21 to TE-10 (Ground)
INPUT SIGNAL ····· NTSC Circular video signal
ADJUSTMENT: Adjust T403 to below.



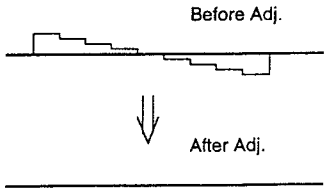
CLAMP LEVEL ADJUSTMENT

EQUIPMENTS ····· Oscilloscope
CONNECTIONS ····· TP-37
TE-6 (Ground)
INPUT SIGNAL ····· PAL Colour video signal
PICTURE CONDITION ····· Normal position.
ADJUSTMENT: Adjust VR6341 to below.



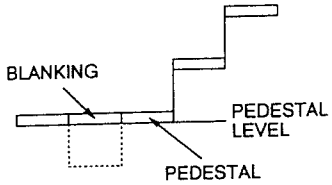
B-Y ADJUSTMENT

EQUIPMENTS ····· Oscilloscope
CONNECTIONS ····· TP-1X
TP-31E (ground)
INPUT SIGNAL ····· Gray Scale video signal
PICTURE CONDITION ····· Normal position.
ADJUSTMENT: By using VR161, adjust the wave form to be straight.



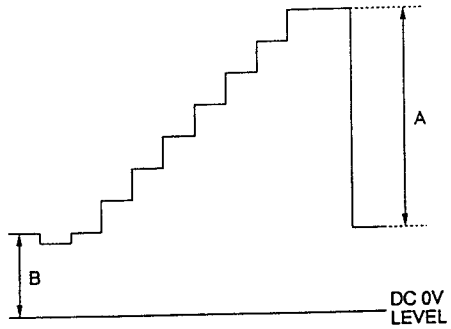
Y BLANKING LEVEL ADJUSTMENT

EQUIPMENTS ····· Oscilloscope
CONNECTIONS ····· TP-25
TE-1 (ground)
INPUT SIGNAL ····· 16 Step Gray Scale video signal
PICTURE CONDITION ····· Normal position.
ADJUSTMENT: By using V6302, adjust the blanking level for same as pedestal level.



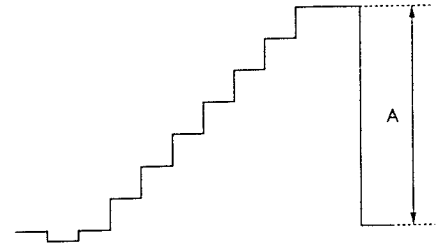
Y INPUT LEVEL ADJUSTMENT

EQUIPMENTS ····· Oscilloscope
CONNECTIONS ····· TP-25
TE-1 (ground)
INPUT SIGNAL ····· 16 Step Gray Scale video signal
PICTURE CONDITION ····· Normal position.
ADJUSTMENT: By using V6301, adjust A to be 0.6Vp-p.
By using VR264, adjust B to be 1.7VDC.



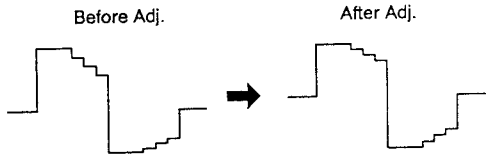
SUB CONTRAST LEVEL ADJUSTMENT

EQUIPMENTS ····· Oscilloscope
CONNECTIONS ····· TP-26
TE-1 (ground)
INPUT SIGNAL ····· 16 Step Gray Scale video signal
PICTURE CONDITION ····· Normal position.
ADJUSTMENT: By using V6601, adjust A to be 0.6Vp-p.



BIAS ADJUSTMENT

EQUIPMENTS ····· Oscilloscope
CONNECTIONS ····· TP-22G
TE-4 (ground)
INPUT SIGNAL ····· 16 Step Gray Scale video signal
PICTURE CONDITION ····· Normal position.
ADJUSTMENT:
1. By using VR221, to increase the size of the TP-22G waveform as far as possible without saturation.
2. By using VR262, adjust so that the rising and falling waveform portions are equal.



GAMMA ADJUSTMENT

EQUIPMENTS ····· Digital voltmeter

CONNECTIONS ····· TP-30
TE-1 (ground)

INPUT SIGNAL ····· 16 Step Gray Scale video signal

PICTURE CONDITION ····· Normal position.

ADJUSTMENT: By using V261, adjust to 2.8 ± 0.05VDC.

SUB BRIGHT ADJUSTMENT

EQUIPMENTS ····· Digital voltmeter

CONNECTIONS ····· TP-29
TE-1 (ground)

INPUT SIGNAL ····· 16 Step Gray Scale video signal

PICTURE CONDITION ····· Normal position.

ADJUSTMENT: By using V6202, adjust to 2.7 ± 0.05VDC.

CONTRAST 2 ADJUSTMENT

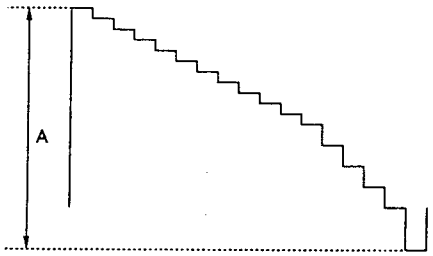
EQUIPMENTS ····· Oscilloscope

CONNECTIONS ····· TP-22G
TE-4 (ground)

INPUT SIGNAL ····· 16 Step Gray Scale video signal

PICTURE CONDITION ····· Normal position.

ADJUSTMENT: By using VR263, adjust A to be 5 ± 0.1Vp-p.



G DC ADJUSTMENT

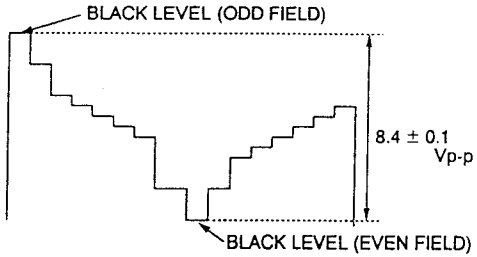
EQUIPMENTS ····· Oscilloscope

CONNECTIONS ····· TP-22G
TE-4 (ground)

INPUT SIGNAL ····· 16 Step Gray Scale video signal

PICTURE CONDITION ····· Normal position.

ADJUSTMENT: Adjust VR221 to below



R.G.B. GATE VOLTAGE ADJUSTMENT

EQUIPMENTS ····· Digital voltmeter

CONNECTIONS ····· TP-35R (R +)
TP-22R (R -)
TP-35G (G +)
TP-22G (G -)
TP-35B (B +)
TP-22B (B -)

INPUT SIGNAL ····· Gray Scale video signal

PICTURE CONDITION ····· Normal position.

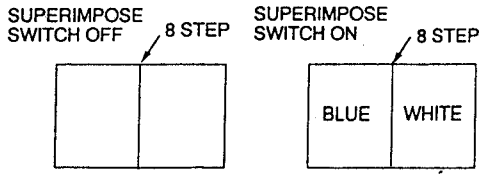
ADJUSTMENT: By using VR502(R), VR522(G), VR542(B), adjust to -14.8~-15.2V.

BLUE SUPER ADJUSTMENT

INPUT SIGNAL ····· 16 Step Gray Scale video signal

ADJUSTMENT:

1. Superimpose switch to OFF position and remember the 8 step position on the screen.
2. Turn the Superimpose switch to ON position.
3. By using VR6570, adjust the screen so that areas below the 8 step position become white.



R VIDEO ADJUSTMENT

EQUIPMENTS ····· Oscilloscope × 2

CONNECTIONS ····· Scope 1: TP-22R and ground
Scope 2: TP-22G and ground

INPUT SIGNAL ····· 16 Step Gray Scale video signal

PICTURE CONDITION ····· Normal position.

ADJUSTMENT: 1. Turn VR201 to mechanical center.
2. By using VR202, adjust TP-22R waveform voltage (p-p) for same as TP-22G.

B VIDEO ADJUSTMENT

EQUIPMENTS ····· Oscilloscope × 2

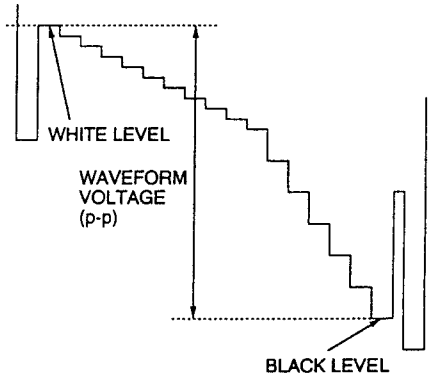
CONNECTIONS ····· Scope 1: TP-22B and ground
Scope 2: TP-22G and ground

INPUT SIGNAL ····· 16 Step Gray Scale video signal

PICTURE CONDITION ····· Normal position.

ADJUSTMENT: 1. Turn VR241 to mechanical center.
2. By using VR242, adjust TP-22B waveform voltage (p-p) for same as TP-22G.

TP-22R, TP-22G and TP-22B WAVEFORM



WHITE BALANCE ADJUSTMENT

INPUT SIGNAL ····· Gray Scale video signal

PICTURE CONDITION ···· Normal position.

ADJUSTMENT: By using VR201 (R-DC Level Adj.) and VR241 (B-DC Level Adj.), adjust to be balanced Gray Scale.

COMMON AMP. ADJUSTMENT

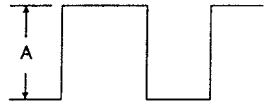
EQUIPMENTS ····· Oscilloscope

CONNECTIONS ····· TP-52R
Chassis Ground

INPUT SIGNAL ····· Gray Scale video signal

PICTURE CONDITION ····· Normal position.

ADJUSTMENT: By using VR266, adjust A to be 6.4 ± 0.2 Vp-p.



R.G.B. COMMON CENTER ADJUSTMENT

INPUT SIGNAL ··· Gray Scale video signal

PICTURE CONDITION ···· Normal position.

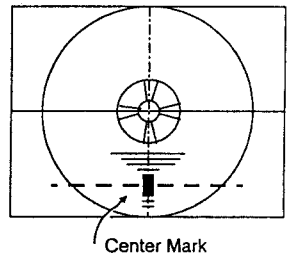
ADJUSTMENT: 1. Display one colour picture (R, G or B) by using two shutters.
2. By using VR511 (R), VR531 (G) or VR551 (B) adjust the picture to be darkest.

O.S.D. CENTER ADJUSTMENT

INPUT SIGNAL ··· NTSC Circular video signal

PICTURE CONDITION ···· Normal position.

ADJUSTMENT: By using VR803, adjust the center of OSD to picture center.



REMOTE CONTROL TRANSMITTER SERVICE NOTE

To repair remote control transmitter, check as follows:

1. Check battery installation and battery voltage. If necessary, replace batteries.
2. Connect oscilloscope to Q1 "Base" and ground.
3. Check the amplitude pulse by pushing the remote control transmitter key in the due order.
4. If pulse does not appear, replace with a new unit.

CHASSIS ELECTRICAL PARTS LIST

Product safety should be considered when a component replacement is made in any area of a receiver. Components indicated by a ⚠ mark in this parts list and the circuit diagram show components whose value have special significance to product safety. It is particularly recommended that only parts specified on the following parts list be used for components replacement pointed out by the mark.

Note: Part order must contain Service Ref. No.,Part No.,and descriptions.

Read description in the Capacitor and Resister as follows:

CAPACITOR

CERAMIC 100P K 50V

- Rated Voltage
- Tolerance Symbols:

Less than 10PF

A: Not specified	B: ± 0.1PF	C: ± 0.25PF
D: ± 0.5PF	F: ± 1PF	G: ± 2PF
R: +0.25 - 0PF	S: +0 - 0.25PF	E: +0 - 1PF

More than 10PF

A: Not specified	B: ± 0.1%	C: ± 0.25%
D: ± 0.5%	F: ± 1%	G: ± 2%
H: ± 3%	J: ± 5%	K: ± 10%
L: ± 15%	M: ± 20%	N: ± 30%
P: +100 - 0%	Q: +30 - 10%	T: +50 - 10%
U: +75 - 10%	V: +20 - 10%	W: +100 - 10%
X: +40 - 20%	Y: +150 - 10%	Z: +80 - 20%

- Rated value:P=pico farad,U=Micro farad

Material :

CERAMIC.....Ceramic
MT-PAPER.....Metallized Paper
POLYESTER.....Polyester
MT-POLYEST.....Metallized Polyester
POLYPRO.....Polypropylene
MT-POLYPRO.....Metallized Polypropylene
COMPO FILM.....Composite film
MT-COMPO.....Metallized Cmposite
STYRENE.....Styrene
TA-SOLID.....Tantalum Solid
AL-SOLID.....Aluminium Solid
ELECT.....Electrolytic
NP-ELECT.....Non-polarized Electrolytic
OS-SOLID.....Aluminium Solid with Organic Semiconductive Electrolytic
DL-ELECT.....Double Layered Electrolytic

RESISTER

CARBON 4.7K J A 1/4W

- Rated Wattage
- Performance Symbols: A:General B:Non flammable Z:Low noise Other :Temperature coefficient
- Tolerance Symbols: A: ± 0.05% B: ± 0.1% C: ± 0.25% D: ± 0.5% F: ± 1% G: ± 2% J: ± 5% K: ± 10% M: ± 20% P:+5 - 15%
- Rated value, ohms: K:1,000, M:1,000,000

Material :

CARBON .....Carbon
MT-FILM.....Metal Film
OXIDE-MT .....Oxide Metal Film
SOLID .....Composition
MT-GLAZE .....Metal Glaze
WIRE WOUND .....Wire Wound
CERAMIC RES.....Ceramic
FUSIBLE RES .....Fusible

Ref. No.	Part No.	Description
IF THERE IS APROBLEM IN THE LAMP BALLAST UNIT, ONLY USETHESEREPLACEMENT PARTS FOR BEST PERFORMANCE AND SAFETY.		
⚠A701	610 254 5586	LAMP BALLAST UNIT
⚠D701	407 124 9801	DIODE RBV-608
⚠D704	407 146 8202	DIODE FMG-G36S
⚠D732	407 048 6108	ZENER DIODE EQA02-11A
⚠R701	402 068 3502	WIRE WOUND 4.7 JA 5W
	402 070 0100	WIRE WOUND 4.7 KA 5W
⚠R713	402 066 2002	WIRE WOUND 33 JA 3W
⚠RL701	645 006 8256	RELAY
⚠Q701	405 105 6702	TR 2SK1181
⚠Q702	405 119 1809	TR 2SK2080
⚠Q703	405 119 1809	TR 2SK2080
⚠Q704	405 119 1809	TR 2SK2080
⚠Q705	405 119 1809	TR 2SK2080
⚠Q731	406 011 2901	TR 2SC4304 LF639
⚠Q732	405 016 9700	TR 2SC3070-CTV
⚠Q733	405 004 4809	TR 2SA608-F-CTV-NP
	405 028 7909	TR 2SA608-G-CTV-NP
610 253 6195 ASSY, PWB, SIGNL&CNTL, P4AA UE2564D		
TRANSISTER		
Q0P1	405 015 8704	TR 2SC2812-L6-TA
Q041	405 015 8704	TR 2SC2812-L6-TA
Q042	405 015 8704	TR 2SC2812-L6-TA
Q061	405 018 1900	TR 2SC3395-TA
Q062	405 018 1900	TR 2SC3395-TA
Q063	405 015 8704	TR 2SC2812-L6-TA
Q069	405 015 8704	TR 2SC2812-L6-TA
Q1A1	405 015 8704	TR 2SC2812-L6-TA
Q1F1	405 015 8704	TR 2SC2812-L6-TA
Q1F2	405 018 1900	TR 2SC3395-TA
Q1F3	405 015 8704	TR 2SC2812-L6-TA
Q1F4	405 015 8704	TR 2SC2812-L6-TA
Q1F5	405 002 6706	TR 2SA1179-M6-TA
Q1H1	405 015 8704	TR 2SC2812-L6-TA
Q1H2	405 015 8704	TR 2SC2812-L6-TA
Q1H3	405 015 8704	TR 2SC2812-L6-TA
Q1H4	405 015 8704	TR 2SC2812-L6-TA
Q1H5	405 015 8704	TR 2SC2812-L6-TA
Q1H6	405 015 8704	TR 2SC2812-L6-TA
Q1H7	405 015 8704	TR 2SC2812-L6-TA
Q1H8	405 015 8704	TR 2SC2812-L6-TA
Q1H9	405 015 8704	TR 2SC2812-L6-TA
Q1J1	405 015 8704	TR 2SC2812-L6-TA
Q1J2	405 015 8704	TR 2SC2812-L6-TA
Q1J3	405 015 8704	TR 2SC2812-L6-TA
Q1J4	405 002 6706	TR 2SA1179-M6-TA
Q1J5	405 015 8704	TR 2SC2812-L6-TA
Q1J6	405 015 8704	TR 2SC2812-L6-TA
Q131	405 018 1900	TR 2SC3395-TA
Q132	405 018 1900	TR 2SC3395-TA
Q151	405 002 6706	TR 2SA1179-M6-TA

Ref. No.	Part No.	Description
Q152	405 015 8704	TR 2SC2812-L6-TA
Q153	405 015 8704	TR 2SC2812-L6-TA
Q171	405 015 8704	TR 2SC2812-L6-TA
Q172	405 015 8704	TR 2SC2812-L6-TA
Q173	405 015 8704	TR 2SC2812-L6-TA
Q174	405 015 8704	TR 2SC2812-L6-TA
Q175	405 015 8704	TR 2SC2812-L6-TA
Q176	405 015 8704	TR 2SC2812-L6-TA
Q177	405 015 8704	TR 2SC2812-L6-TA
Q179	405 002 6706	TR 2SA1179-M6-TA
Q181	405 002 6706	TR 2SA1179-M6-TA
Q182	405 015 8704	TR 2SC2812-L6-TA
Q183	405 015 8704	TR 2SC2812-L6-TA
Q184	405 018 2402	TR 2SC3398-TA
Q801	405 018 2402	TR 2SC3398-TA
Q802	405 018 2402	TR 2SC3398-TA
Q803	405 018 2402	TR 2SC3398-TA
Q804	405 018 2402	TR 2SC3398-TA
Q805	405 018 2402	TR 2SC3398-TA
Q806	405 018 2402	TR 2SC3398-TA
Q807	405 018 2402	TR 2SC3398-TA
Q821	405 023 4903	TR 2SD400-D-MP
	405 023 5009	TR 2SD400-E-MP
	405 023 5306	TR 2SD400-F-MP
Q829	405 018 2402	TR 2SC3398-TA
Q831	405 018 1900	TR 2SC3395-TA
Q842	405 015 8704	TR 2SC2812-L6-TA
Q843	405 015 8704	TR 2SC2812-L6-TA
Q844	405 015 8704	TR 2SC2812-L6-TA
Q847	405 018 2402	TR 2SC3398-TA
Q848	405 018 2402	TR 2SC3398-TA
Q861	405 018 1900	TR 2SC3395-TA
Q871	405 015 8704	TR 2SC2812-L6-TA
Q872	405 015 8704	TR 2SC2812-L6-TA
Q873	405 002 6706	TR 2SA1179-M6-TA
INTEGRATED CIRCUIT		
IC001	407 105 8700	PHOTO COUPLE PC113B
IC041	409 146 7209	IC LA7222
IC051	409 132 7909	IC MC14053BCP
	409 051 3006	IC TC4053BP
	409 059 2407	IC UPD4053BC
IC052	409 221 1306	IC HCF0222
IC061	409 146 7209	IC LA7222
IC1A1	409 195 4501	IC TDA2579A/N8
	410 036 7209	IC TDA2579/N6
	410 047 9803	IC TDA2579A/N7
IC1K1	409 203 2901	IC SN74LS123M-R
IC1L1	409 141 0502	IC TA79L008P
IC101	410 039 7008	IC TDA4555/V8
IC102	409 185 8908	IC TDA4580/N4
	409 277 0605	IC TDA4580/V6
	409 277 0704	IC TDA4580/V7
IC801	410 150 5907	IC M37102M8-823SP
IC802	409 032 3803	IC MN1280-S
IC803	409 199 5306	IC M6M80011AP
IC851	409 114 4803	IC LB1641
IC852	409 114 4803	IC LB1641
CAPACITOR		
COM1	403 134 5802	ELECT 470U M 16V
COP1	403 069 9609	CERAMIC 0.01U Z 50V
C001	403 134 9602	ELECT 47U M 16V
C002	403 069 9609	CERAMIC 0.01U Z 50V
C025	403 069 9609	CERAMIC 0.01U Z 50V
C031	403 026 3602	CERAMIC 47P J 50V
C032	403 022 9004	CERAMIC 33P J 50V
C036	403 009 6200	CERAMIC 100P J 50V
C040	403 069 9609	CERAMIC 0.01U Z 50V
C041	403 033 5309	CERAMIC 82P J 50V

Ref. No.	Part No.	Description
C042	403 009 6309	CERAMIC 100P J 50V
C043	403 134 9602	ELECT 47U M 16V
C044	403 069 9609	CERAMIC 0.01U Z 50V
C045	403 166 1506	NP-ELECT 47U M 16V
C046	403 125 5606	ELECT 100U M 16V
C047	403 069 9609	CERAMIC 0.01U Z 50V
C048	403 009 6309	CERAMIC 100P J 50V
C049	403 217 1509	CERAMIC 270P J 50V
C051	403 134 9602	ELECT 47U M 16V
C052	403 134 9602	ELECT 47U M 16V
C053	403 028 5000	CERAMIC 56P J 50V
C054	403 071 6603	CERAMIC 220P K 50V
C055	403 069 9609	CERAMIC 0.01U Z 50V
C056	403 069 9609	CERAMIC 0.01U Z 50V
C057	403 026 3602	CERAMIC 47P J 50V
C058	403 013 3509	CERAMIC 150P J 50V
C059	403 069 9609	CERAMIC 0.01U Z 50V
C062	403 134 9602	ELECT 47U M 16V
C063	403 166 1506	NP-ELECT 47U M 16V
C064	403 134 9602	ELECT 47U M 16V
C065	403 069 9609	CERAMIC 0.01U Z 50V
C066	403 134 9602	ELECT 47U M 16V
C067	403 125 5606	ELECT 100U M 16V
C068	403 069 9609	CERAMIC 0.01U Z 50V
C069	403 125 5606	ELECT 100U M 16V
C1A1	403 059 6205	POLYESTER 0.022U K 50V
	403 059 6700	POLYESTER 0.022U K 50V
C1A2	403 067 6501	MT-COMPO 0.18U J 50V
C1A3	403 140 9207	NP-ELECT 10U M 16V
C1A4	403 011 5604	CERAMIC 120P J 50V
C1A5	403 121 3408	ELECT 2.2U M 50V
C1A6	403 121 2401	ELECT 22U M 16V
C1A7	403 107 9905	ELECT 10U M 16V
C1A9	403 067 6204	MT-COMPO 0.15U J 50V
C1J1	403 067 6204	MT-COMPO 0.15U J 50V
C1J2	403 069 9609	CERAMIC 0.01U Z 50V
C1J3	403 121 2401	ELECT 22U M 16V
C1J4	403 081 2800	POLYPRO 2200P J 100V
C1J5	403 067 5603	MT-COMPO 0.1U J 50V
C1J6	403 125 5606	ELECT 100U M 16V
C1J7	403 074 3203	CERAMIC 0.047U Z 50V
C1K1	403 056 7304	POLYESTER 1000P J 50V
	403 056 7700	POLYESTER 1000P J 50V
C1K2	403 059 3006	POLYESTER 2200P J 50V
	403 059 3402	POLYESTER 2200P J 50V
C1K3	403 134 9602	ELECT 47U M 16V
C1K4	403 026 3602	CERAMIC 47P J 50V
C1S1	403 125 5606	ELECT 100U M 16V
C111	403 014 9609	CERAMIC 180P J 50V
C112	403 030 7801	CERAMIC 68P J 50V
C113	403 244 3507	CERAMIC 180P J 50V
C114	403 018 1203	CERAMIC 22P J 50V
C116	403 244 3507	CERAMIC 180P J 50V
C117	403 018 1203	CERAMIC 22P J 50V
C118	403 030 7801	CERAMIC 68P J 50V
C119	403 244 3507	CERAMIC 180P J 50V
C120	403 069 9609	CERAMIC 0.01U Z 50V
C121	403 244 3507	CERAMIC 180P J 50V
C122	403 069 9609	CERAMIC 0.01U Z 50V
C123	403 067 5603	MT-COMPO 0.1U J 50V
C124	403 072 3502	CERAMIC 0.022U Z 50V
C125	403 134 5802	ELECT 470U M 16V
C126	403 134 6007	ELECT 330U M 16V
C127	403 069 9609	CERAMIC 0.01U Z 50V
C128	403 067 7300	MT-COMPO 0.33U J 50V
C129	403 069 9609	CERAMIC 0.01U Z 50V
C131	403 067 7706	MT-COMPO 0.047U J 50V
C132	403 067 7300	MT-COMPO 0.33U J 50V
C133	403 072 3502	CERAMIC 0.022U Z 50V
C134	403 060 8403	POLYESTER 0.033U K 50V

Ref. No.	Part No.	Description
	403 060 8809	POLYESTER 0.033U K 50V
C135	403 069 9609	CERAMIC 0.01U Z 50V
C136	403 069 9609	CERAMIC 0.01U Z 50V
C137	403 244 3507	CERAMIC 180P J 50V
C138	403 030 7603	CERAMIC 68P J 50V
C139	403 069 9609	CERAMIC 0.01U Z 50V
C141	403 069 9609	CERAMIC 0.01U Z 50V
C142	403 069 9609	CERAMIC 0.01U Z 50V
C143	403 069 9609	CERAMIC 0.01U Z 50V
C144	403 067 6709	MT-COMPO 0.22U J 50V
C145	403 121 3408	ELECT 2.2U M 50V
C146	403 121 3408	ELECT 2.2U M 50V
C147	403 072 3502	CERAMIC 0.022U Z 50V
C148	403 072 3502	CERAMIC 0.022U Z 50V
C149	403 121 3408	ELECT 2.2U M 50V
C151	403 069 9609	CERAMIC 0.01U Z 50V
C152	403 069 9609	CERAMIC 0.01U Z 50V
C153	403 069 9609	CERAMIC 0.01U Z 50V
C155	403 014 9609	CERAMIC 180P J 50V
C156	403 109 6308	ELECT 1U M 50V
C157	403 067 6709	MT-COMPO 0.22U J 50V
C158	403 067 6709	MT-COMPO 0.22U J 50V
C159	403 067 6709	MT-COMPO 0.22U J 50V
C161	403 072 3502	CERAMIC 0.022U Z 50V
C162	403 072 3502	CERAMIC 0.022U Z 50V
C163	403 072 3502	CERAMIC 0.022U Z 50V
C166	403 218 3106	ELECT 1000U M 16V
C167	403 069 9609	CERAMIC 0.01U Z 50V
C172	403 125 5606	ELECT 100U M 16V
C173	403 069 9609	CERAMIC 0.01U Z 50V
C180	403 134 9602	ELECT 47U M 16V
C181	403 069 9609	CERAMIC 0.01U Z 50V
C182	403 134 9602	ELECT 47U M 16V
C183	403 134 9602	ELECT 47U M 16V
C184	403 069 9609	CERAMIC 0.01U Z 50V
C185	403 125 5606	ELECT 100U M 16V
C186	403 125 5606	ELECT 100U M 16V
C187	403 069 9609	CERAMIC 0.01U Z 50V
C188	403 134 9602	ELECT 47U M 16V
C189	403 134 9602	ELECT 47U M 16V
C190	403 134 9602	ELECT 47U M 16V
C191	403 069 9609	CERAMIC 0.01U Z 50V
C192	403 030 7801	CERAMIC 68P J 50V
C193	403 009 6309	CERAMIC 100P J 50V
C194	403 009 6309	CERAMIC 100P J 50V
C195	403 074 6709	CERAMIC 560P K 50V
C196	403 074 6709	CERAMIC 560P K 50V
C197	403 074 6709	CERAMIC 560P K 50V
C805	403 069 9609	CERAMIC 0.01U Z 50V
C827	403 069 9609	CERAMIC 0.01U Z 50V
C828	403 121 2302	ELECT 470U M 10V
C829	403 014 0705	CERAMIC 18P J 50V
C831	403 014 0705	CERAMIC 18P J 50V
C832	403 067 5603	MT-COMPO 0.1U J 50V
C834	403 069 9609	CERAMIC 0.01U Z 50V
C835	403 067 6709	MT-COMPO 0.22U J 50V
C836	403 067 5603	MT-COMPO 0.1U J 50V
C838	403 067 6709	MT-COMPO 0.22U J 50V
C839	403 067 5603	MT-COMPO 0.1U J 50V
C841	403 130 2805	ELECT 220U M 10V
C851	403 069 9609	CERAMIC 0.01U Z 50V
C852	403 069 9609	CERAMIC 0.01U Z 50V
C853	403 134 5802	ELECT 470U M 16V
C855	403 069 9609	CERAMIC 0.01U Z 50V
C856	403 069 9609	CERAMIC 0.01U Z 50V
C857	403 121 2609	ELECT 220U M 16V
C858	403 134 5802	ELECT 470U M 16V
C859	403 125 5606	ELECT 100U M 16V
C872	403 072 8606	CERAMIC 330P K 50V
C873	403 072 8606	CERAMIC 330P K 50V

Ref. No.	Part No.		Description
C881	403 121 2609	ELECT	220U M 16V
C882	403 135 4804	ELECT	330U M 10V
C883	403 121 2609	ELECT	220U M 16V
RESISTER			
ROP1	401 036 8501	MT-GLAZE	47K JA 1/8W
ROP2	401 036 8501	MT-GLAZE	47K JA 1/8W
ROP3	401 036 1601	MT-GLAZE	2.2K JA 1/8W
R002	401 022 6801	CARBON	75 JA 1/4W
R003	401 022 6801	CARBON	75 JA 1/4W
R004	401 036 8808	MT-GLAZE	470K JA 1/8W
R005	401 036 8808	MT-GLAZE	470K JA 1/8W
R006	401 035 5204	MT-GLAZE	10K JA 1/8W
R007	401 035 4108	MT-GLAZE	0.000 ZA 1/8W
R008	401 036 5104	MT-GLAZE	33K JA 1/8W
R009	401 036 5104	MT-GLAZE	33K JA 1/8W
R011	401 035 6805	MT-GLAZE	1.2K JA 1/8W
R012	401 035 4603	MT-GLAZE	100 JA 1/8W
R013	401 036 4701	MT-GLAZE	330 JA 1/8W
R014	401 035 6805	MT-GLAZE	1.2K JA 1/8W
R022	401 022 6801	CARBON	75 JA 1/4W
R023	401 035 4900	MT-GLAZE	1K JA 1/8W
R024	401 035 4900	MT-GLAZE	1K JA 1/8W
R025	401 035 7901	MT-GLAZE	1.5K JA 1/8W
R026	401 035 7901	MT-GLAZE	1.5K JA 1/8W
R027	401 035 4108	MT-GLAZE	0.000 ZA 1/8W
R036	401 035 4603	MT-GLAZE	100 JA 1/8W
R037	401 035 4603	MT-GLAZE	100 JA 1/8W
R041	401 037 3703	MT-GLAZE	820 JA 1/8W
R042	401 037 3703	MT-GLAZE	820 JA 1/8W
R043	401 036 8105	MT-GLAZE	470 JA 1/8W
R044	401 035 4603	MT-GLAZE	100 JA 1/8W
R045	401 035 4900	MT-GLAZE	1K JA 1/8W
R046	401 036 7801	MT-GLAZE	47 JA 1/8W
R047	401 035 4900	MT-GLAZE	1K JA 1/8W
R048	401 036 8303	MT-GLAZE	4.7K JA 1/8W
R049	401 037 2102	MT-GLAZE	6.8K JA 1/8W
R051	401 035 5204	MT-GLAZE	10K JA 1/8W
R052	401 035 7901	MT-GLAZE	1.5K JA 1/8W
R053	401 036 1601	MT-GLAZE	2.2K JA 1/8W
R054	401 037 2102	MT-GLAZE	6.8K JA 1/8W
R055	401 036 8105	MT-GLAZE	470 JA 1/8W
R056	401 036 4701	MT-GLAZE	330 JA 1/8W
R057	401 036 1601	MT-GLAZE	2.2K JA 1/8W
R058	401 036 4701	MT-GLAZE	330 JA 1/8W
R059	401 036 5104	MT-GLAZE	33K JA 1/8W
R060	401 035 5204	MT-GLAZE	10K JA 1/8W
R062	401 035 7901	MT-GLAZE	1.5K JA 1/8W
R064	401 035 7901	MT-GLAZE	1.5K JA 1/8W
R065	401 035 5204	MT-GLAZE	10K JA 1/8W
R066	401 035 5204	MT-GLAZE	10K JA 1/8W
R067	401 036 8501	MT-GLAZE	47K JA 1/8W
R068	401 036 8501	MT-GLAZE	47K JA 1/8W
R069	401 036 1601	MT-GLAZE	2.2K JA 1/8W
R1A0	401 037 0108	MT-GLAZE	5.6K JA 1/8W
R1A1	401 035 5402	MT-GLAZE	100K JA 1/8W
R1A2	401 035 5204	MT-GLAZE	10K JA 1/8W
R1A3	401 036 8808	MT-GLAZE	470K JA 1/8W
R1A4	401 035 4900	MT-GLAZE	1K JA 1/8W
R1A5	401 037 0108	MT-GLAZE	5.6K JA 1/8W
R1A6	401 035 6904	MT-GLAZE	12K JA 1/8W
R1A7	401 037 2102	MT-GLAZE	6.8K JA 1/8W
R1A8	401 036 1205	MT-GLAZE	22 JA 1/8W
R1A9	401 037 3703	MT-GLAZE	820 JA 1/8W
R1F0	401 036 8501	MT-GLAZE	47K JA 1/8W
R1F1	401 035 4900	MT-GLAZE	1K JA 1/8W
R1F2	401 037 2102	MT-GLAZE	6.8K JA 1/8W
R1F3	401 035 8007	MT-GLAZE	15K JA 1/8W
R1F4	401 036 8303	MT-GLAZE	4.7K JA 1/8W
R1F5	401 036 6507	MT-GLAZE	3.9K JA 1/8W

Ref. No.	Part No.	Description
R1F6	401 037 2102	MT-GLAZE 6.8K JA 1/8W
R1F7	401 035 4900	MT-GLAZE 1K JA 1/8W
R1F8	401 036 6507	MT-GLAZE 3.9K JA 1/8W
R1F9	401 036 8501	MT-GLAZE 47K JA 1/8W
R1J1	401 009 5803	CARBON 330 JA 1/2W
R1J4	401 036 6606	MT-GLAZE 39K JA 1/8W
R1J5	401 036 5104	MT-GLAZE 33K JA 1/8W
R1J6	401 036 5104	MT-GLAZE 33K JA 1/8W
R1J7	401 037 0405	MT-GLAZE 56K JA 1/8W
R1J8	401 035 4603	MT-GLAZE 100 JA 1/8W
R1J9	401 037 2102	MT-GLAZE 6.8K JA 1/8W
R1K1	401 036 3100	MT-GLAZE 27K JA 1/8W
R1K2	401 036 1700	MT-GLAZE 22K JA 1/8W
R1K4	401 009 5803	CARBON 330 JA 1/2W
R1L1	401 036 7801	MT-GLAZE 47 JA 1/8W
R1L2	401 035 8007	MT-GLAZE 15K JA 1/8W
R1L3	401 036 1403	MT-GLAZE 220 JA 1/8W
R1L4	401 012 5708	CARBON 1K JA 1/4W
R1L5	401 037 3703	MT-GLAZE 820 JA 1/8W
R1L6	401 036 7801	MT-GLAZE 47 JA 1/8W
R1L7	401 035 4900	MT-GLAZE 1K JA 1/8W
R1L8	401 007 1104	CARBON 1K JA 1/2W
R1L9	401 035 9301	MT-GLAZE 1.8K JA 1/8W
R1M1	401 036 1700	MT-GLAZE 22K JA 1/8W
R1M2	401 035 4900	MT-GLAZE 1K JA 1/8W
R1M3	401 036 7801	MT-GLAZE 47 JA 1/8W
R1M4	401 035 8007	MT-GLAZE 15K JA 1/8W
R1M5	401 012 5708	CARBON 1K JA 1/4W
R1M6	401 035 6805	MT-GLAZE 1.2K JA 1/8W
R1M7	401 035 4900	MT-GLAZE 1K JA 1/8W
R1M8	401 035 4900	MT-GLAZE 1K JA 1/8W
R1M9	401 036 7801	MT-GLAZE 47 JA 1/8W
R1N1	401 036 6408	MT-GLAZE 390 JA 1/8W
R1N2	401 063 0103	OXIDE-MT 68 JA 1W
R1N3	401 036 7801	MT-GLAZE 47 JA 1/8W
R1N4	401 035 8007	MT-GLAZE 15K JA 1/8W
R1N5	401 012 5708	CARBON 1K JA 1/4W
R1N6	401 035 4900	MT-GLAZE 1K JA 1/8W
R1N7	401 035 4900	MT-GLAZE 1K JA 1/8W
R1N8	401 036 1700	MT-GLAZE 22K JA 1/8W
R1N9	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R1P1	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R1P2	401 037 3703	MT-GLAZE 820 JA 1/8W
R1P3	401 035 4900	MT-GLAZE 1K JA 1/8W
R1P5	401 036 1700	MT-GLAZE 22K JA 1/8W
R1P6	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R1P7	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R1P8	401 037 3703	MT-GLAZE 820 JA 1/8W
R1P9	401 035 4900	MT-GLAZE 1K JA 1/8W
P101	401 036 9904	MT-GLAZE 560 JA 1/8W
R102	401 035 5204	MT-GLAZE 10K JA 1/8W
R103	401 036 2806	MT-GLAZE 2.7K JA 1/8W
R105	401 036 1700	MT-GLAZE 22K JA 1/8W
R106	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R1R1	401 035 4900	MT-GLAZE 1K JA 1/8W
R1R3	401 035 4900	MT-GLAZE 1K JA 1/8W
R1R4	401 035 7901	MT-GLAZE 1.5K JA 1/8W
R1S1	401 009 4806	CARBON 33 JA 1/2W
R101	401 035 4900	MT-GLAZE 1K JA 1/8W
R102	401 035 4900	MT-GLAZE 1K JA 1/8W
R103	401 035 4900	MT-GLAZE 1K JA 1/8W
R112	401 035 4900	MT-GLAZE 1K JA 1/8W
R113	401 036 9904	MT-GLAZE 560 JA 1/8W
R114	401 036 9904	MT-GLAZE 560 JA 1/8W
R115	401 036 9904	MT-GLAZE 560 JA 1/8W
R116	401 035 4603	MT-GLAZE 100 JA 1/8W
R117	401 035 6805	MT-GLAZE 1.2K JA 1/8W
R118	401 036 6408	MT-GLAZE 390 JA 1/8W
R119	401 036 8105	MT-GLAZE 470 JA 1/8W
R121	401 035 5204	MT-GLAZE 10K JA 1/8W

Ref. No.	Part No.	Description
R122	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R123	401 037 0702	MT-GLAZE 560K JA 1/8W
R124	401 036 8501	MT-GLAZE 47K JA 1/8W
R125	401 036 5104	MT-GLAZE 33K JA 1/8W
R131	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R132	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R133	401 035 5204	MT-GLAZE 10K JA 1/8W
R134	401 035 5204	MT-GLAZE 10K JA 1/8W
R136	401 036 5104	MT-GLAZE 33K JA 1/8W
R137	401 035 8908	MT-GLAZE 16K JA 1/8W
R138	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R139	401 035 6904	MT-GLAZE 12K JA 1/8W
R141	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R142	401 035 5204	MT-GLAZE 10K JA 1/8W
R143	401 035 4603	MT-GLAZE 100 JA 1/8W
R144	401 035 5402	MT-GLAZE 100K JA 1/8W
R146	401 035 7109	MT-GLAZE 120K JA 1/8W
R147	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R148	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R149	401 037 1907	MT-GLAZE 680 JA 1/8W
R151	401 035 5204	MT-GLAZE 10K JA 1/8W
R152	401 036 5104	MT-GLAZE 33K JA 1/8W
R153	401 035 7901	MT-GLAZE 1.5K JA 1/8W
R154	401 037 1907	MT-GLAZE 680 JA 1/8W
R156	401 037 2300	MT-GLAZE 68K JA 1/8W
R157	401 035 8007	MT-GLAZE 15K JA 1/8W
R158	401 035 4900	MT-GLAZE 1K JA 1/8W
R161	401 023 0709	CARBON 82 JA 1/4W
R162	401 023 0709	CARBON 82 JA 1/4W
R163	401 023 0709	CARBON 82 JA 1/4W
R164	401 022 6801	CARBON 75 JA 1/4W
R165	401 035 4603	MT-GLAZE 100 JA 1/8W
R166	401 035 4603	MT-GLAZE 100 JA 1/8W
R167	401 035 4603	MT-GLAZE 100 JA 1/8W
R171	401 037 1907	MT-GLAZE 680 JA 1/8W
R172	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R173	401 037 1907	MT-GLAZE 680 JA 1/8W
R174	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R175	401 037 1907	MT-GLAZE 680 JA 1/8W
R176	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R177	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R181	401 037 3802	MT-GLAZE 8.2K JA 1/8W
R182	401 036 9904	MT-GLAZE 560 JA 1/8W
R183	401 035 4603	MT-GLAZE 100 JA 1/8W
R184	401 036 5104	MT-GLAZE 33K JA 1/8W
R185	401 036 6507	MT-GLAZE 3.9K JA 1/8W
R186	401 036 3100	MT-GLAZE 27K JA 1/8W
R187	401 036 5104	MT-GLAZE 33K JA 1/8W
R188	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R192	401 035 5204	MT-GLAZE 10K JA 1/8W
R8H3	401 035 7901	MT-GLAZE 1.5K JA 1/8W
R8K1	401 035 5204	MT-GLAZE 10K JA 1/8W
R8K2	401 035 5204	MT-GLAZE 10K JA 1/8W
R8K3	401 035 5204	MT-GLAZE 10K JA 1/8W
R8K4	401 035 5204	MT-GLAZE 10K JA 1/8W
R8K5	401 035 5204	MT-GLAZE 10K JA 1/8W
R8L1	401 035 5204	MT-GLAZE 10K JA 1/8W
R8L2	401 035 5204	MT-GLAZE 10K JA 1/8W
R8L3	401 035 5204	MT-GLAZE 10K JA 1/8W
R8L4	401 035 5204	MT-GLAZE 10K JA 1/8W
R8L5	401 035 5204	MT-GLAZE 10K JA 1/8W
R8L6	401 035 5204	MT-GLAZE 10K JA 1/8W
R8L7	401 035 5204	MT-GLAZE 10K JA 1/8W
R8L8	401 035 5204	MT-GLAZE 10K JA 1/8W
R8M3	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R8P1	401 035 5204	MT-GLAZE 10K JA 1/8W
R8P2	401 035 5204	MT-GLAZE 10K JA 1/8W
R8P3	401 035 5204	MT-GLAZE 10K JA 1/8W
R8P4	401 035 5204	MT-GLAZE 10K JA 1/8W
R8P5	401 037 0108	MT-GLAZE 5.6K JA 1/8W

Ref. No.	Part No.	Description
R8P6	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R8P7	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R8P8	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R801	401 035 4900	MT-GLAZE 1K JA 1/8W
R802	401 035 5204	MT-GLAZE 10K JA 1/8W
R803	401 035 5204	MT-GLAZE 10K JA 1/8W
R804	401 035 5204	MT-GLAZE 10K JA 1/8W
R805	401 035 4900	MT-GLAZE 1K JA 1/8W
R806	401 035 5204	MT-GLAZE 10K JA 1/8W
R807	401 035 5204	MT-GLAZE 10K JA 1/8W
R808	401 035 5204	MT-GLAZE 10K JA 1/8W
R809	401 035 5204	MT-GLAZE 10K JA 1/8W
R810	401 035 4603	MT-GLAZE 100 JA 1/8W
R811	401 035 4603	MT-GLAZE 100 JA 1/8W
R812	401 035 4603	MT-GLAZE 100 JA 1/8W
R813	401 035 4603	MT-GLAZE 100 JA 1/8W
R814	401 035 4603	MT-GLAZE 100 JA 1/8W
R815	401 035 4603	MT-GLAZE 100 JA 1/8W
R816	401 035 4603	MT-GLAZE 100 JA 1/8W
R817	401 035 4603	MT-GLAZE 100 JA 1/8W
R819	401 035 4603	MT-GLAZE 100 JA 1/8W
R820	401 035 5204	MT-GLAZE 10K JA 1/8W
R821	401 025 1605	CARBON 1.5K JA 1/6W
R822	401 025 1605	CARBON 1.5K JA 1/6W
R823	401 025 1605	CARBON 1.5K JA 1/6W
R824	401 025 1605	CARBON 1.5K JA 1/6W
R825	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R826	401 035 6904	MT-GLAZE 12K JA 1/8W
R828	401 035 4603	MT-GLAZE 100 JA 1/8W
R829	401 035 4603	MT-GLAZE 100 JA 1/8W
R831	401 035 4900	MT-GLAZE 1K JA 1/8W
R832	401 035 4603	MT-GLAZE 100 JA 1/8W
R833	401 035 8007	MT-GLAZE 15K JA 1/8W
R834	401 035 5204	MT-GLAZE 10K JA 1/8W
R835	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R836	401 037 2300	MT-GLAZE 68K JA 1/8W
R837	401 035 5204	MT-GLAZE 10K JA 1/8W
R838	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R839	401 035 5204	MT-GLAZE 10K JA 1/8W
R841	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R842	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R843	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R844	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R845	401 035 9806	MT-GLAZE 18K JA 1/8W
R847	401 035 4900	MT-GLAZE 1K JA 1/8W
R848	401 035 4900	MT-GLAZE 1K JA 1/8W
R851	401 036 4800	MT-GLAZE 3.3K JA 1/8W
R852	401 036 4800	MT-GLAZE 3.3K JA 1/8W
R853	401 035 4900	MT-GLAZE 1K JA 1/8W
R854	401 016 9702	CARBON 27 JA 1/4W
R855	401 036 4800	MT-GLAZE 3.3K JA 1/8W
R856	401 036 4800	MT-GLAZE 3.3K JA 1/8W
R857	401 035 4900	MT-GLAZE 1K JA 1/8W
R858	401 016 9702	CARBON 27 JA 1/4W
R861	401 036 1908	MT-GLAZE 220K JA 1/8W
R862	401 036 1700	MT-GLAZE 22K JA 1/8W
R871	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R872	401 035 9301	MT-GLAZE 1.8K JA 1/8W
R873	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R874	401 035 5204	MT-GLAZE 10K JA 1/8W
R875	401 035 5204	MT-GLAZE 10K JA 1/8W
R876	401 035 5204	MT-GLAZE 10K JA 1/8W
R878	401 035 5204	MT-GLAZE 10K JA 1/8W
R881	402 022 2107	FUSIBLE RES 27 J- 1/4W
R882	401 037 1907	MT-GLAZE 680 JA 1/8W
R883	401 036 8105	MT-GLAZE 470 JA 1/8W
R891	401 035 4603	MT-GLAZE 100 JA 1/8W
R892	401 035 4603	MT-GLAZE 100 JA 1/8W
R893	401 035 6805	MT-GLAZE 1.2K JA 1/8W
R894	401 035 6805	MT-GLAZE 1.2K JA 1/8W
R896	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R897	401 035 6904	MT-GLAZE 12K JA 1/8W
R898	401 035 5204	MT-GLAZE 10K JA 1/8W
R899	401 036 8105	MT-GLAZE 470 JA 1/8W
VARIABLE RESISTER		
VR1J1	610 232 7199	VR, SEMI, 10K S
VR121	610 232 7250	VR, SEMI, 500 S
VR151	610 232 7199	VR, SEMI, 10K S
VR161	610 232 7250	VR, SEMI, 500 S
VR803	610 232 7281	VR, SEMI, 3K S
TRANSFORMER		
T041	610 037 5536	S COIL
T111	610 037 5314	S COIL
T112	610 037 5314	S COIL
T121	610 037 5536	S COIL
T131	610 037 5314	S COIL
COIL		
L031	610 031 1367	INDUCTOR 202J
	610 211 3488	INDUCTOR
L041	610 029 5728	INDUCTOR, 27U J
L042	610 029 5582	INDUCTOR, 10U J
L052	610 029 5889	INDUCTOR, 8.2U J
L053	610 029 5803	INDUCTOR, 5.6U J
L062	610 030 0767	DELAY LINE
L063	610 029 6466	INDUCTOR, 8.2U K
L065	610 224 3864	DELAY LINE
L121	610 029 6466	INDUCTOR, 8.2U K
L122	610 220 7613	DELAY LINE
L123	610 031 3477	INDUCTOR, 470U K
DIODE		
DB801	407 137 8402	ZENER DIODE B202S-0119
D001	407 070 9603	ZENER DIODE DZD11X-TA
D005	407 071 7202	ZENER DIODE DZD6.2X-TA
D006	407 071 7202	ZENER DIODE DZD6.2X-TA
D1A1	407 004 8009	DIODE DSB015-TA
D1K1	407 071 6403	ZENER DIODE DZD5.1X-TA
D1L1	407 052 4602	ZENER DIODE HZ4B3
D1S1	407 048 5101	ZENER DIODE EQA02-09B
	407 048 5200	ZENER DIODE EQA02-09C
D133	407 004 8009	DIODE DSB015-TA
D134	407 004 8009	DIODE DSB015-TA
D135	407 004 8009	DIODE DSB015-TA
D136	407 004 8009	DIODE DSB015-TA
D151	407 004 8009	DIODE DSB015-TA
D152	407 004 8009	DIODE DSB015-TA
D153	407 004 8009	DIODE DSB015-TA
D154	407 004 8009	DIODE DSB015-TA
D156	407 004 8009	DIODE DSB015-TA
D158	407 004 8009	DIODE DSB015-TA
D181	407 004 8009	DIODE DSB015-TA
D191	407 004 8009	DIODE DSB015-TA
D192	407 004 8009	DIODE DSB015-TA
D193	407 004 8009	DIODE DSB015-TA
D802	407 070 9603	ZENER DIODE DZD11X-TA
D803	407 070 9603	ZENER DIODE DZD11X-TA
D804	407 070 9603	ZENER DIODE DZD11X-TA
D805	407 070 9603	ZENER DIODE DZD11X-TA
D809	407 070 9603	ZENER DIODE DZD11X-TA
D811	407 004 8009	DIODE DSB015-TA
D812	407 004 8009	DIODE DSB015-TA
D813	407 004 8009	DIODE DSB015-TA
D814	407 004 8009	DIODE DSB015-TA
D818	407 004 8009	DIODE DSB015-TA
D821	407 004 8009	DIODE DSB015-TA
D822	407 004 8009	DIODE DSB015-TA
D823	407 004 8009	DIODE DSB015-TA

Ref. No.	Part No.	Description
D824	407 004 8009	DIODE DSB015-TA
D825	407 071 6403	ZENER DIODE DZD5.1X-TA
D831	407 071 6908	ZENER DIODE DZD5.6Y-TA
	407 071 7004	ZENER DIODE DZD5.6Z-TA
D832	407 004 8009	DIODE DSB015-TA
D834	407 004 8009	DIODE DSB015-TA
D835	407 004 8009	DIODE DSB015-TA
D837	407 004 8009	DIODE DSB015-TA
D840	407 070 9603	ZENER DIODE DZD11X-TA
D841	407 070 9603	ZENER DIODE DZD11X-TA
D851	407 071 6403	ZENER DIODE DZD5.1X-TA
D852	407 071 6403	ZENER DIODE DZD5.1X-TA
D853	407 004 8009	DIODE DSB015-TA
MISCELLANEUS		
VC131	610 003 0329	TRIMMER, CONDENSER
VC132	610 003 0329	TRIMMER CONDENSER
TH801	407 015 0207	THERMISTOR SDT-250S-CTV
	407 163 5802	THERMISTOR NB225LBSZ
K001	610 206 1048	DIN SOCKET
K002	610 232 6147	COMBINATION JACK BOARD
K003	610 239 1329	COMBINATION JACK BOARD
K004	610 234 3786	PHONE JACK
	610 234 3793	PHONE JACK
K005	610 239 2753	PUSH SWITCH
X052	610 226 6894	CERAMIC TRAP
X053	610 012 2215	CERAMIC TRAP
X131	610 012 2734	CRYSTAL OSCILLATOR
	610 012 1850	CRYSTAL OSCILLATOR
X132	610 012 2758	CRYSTAL OSCILLATOR
X801	610 012 2857	CERAMIC OSCILLATOR

610 239 2128AV CHANGE PCB ASSY E5SA UE2575

TRANSISTER		
Q1000	405 015 8704	TR 2SC2812-L6-TA
Q1001	405 015 8704	TR 2SC2812-L6-TA
Q1002	405 015 8704	TR 2SC2812-L6-TA
Q1003	405 015 8704	TR 2SC2812-L6-TA
Q1100	405 015 8704	TR 2SC2812-L6-TA
Q1101	405 015 8704	TR 2SC2812-L6-TA
Q1102	405 015 8704	TR 2SC2812-L6-TA
Q1103	405 002 6706	TR 2SA1179-M6-TA
Q1104	405 015 8704	TR 2SC2812-L6-TA
Q1105	405 015 8704	TR 2SC2812-L6-TA
Q1106	405 016 2206	TR 2SC2878-A
	405 016 2305	TR 2SC2878-B
Q1107	405 015 8704	TR 2SC2812-L6-TA
Q1108	405 016 2206	TR 2SC2878-A
	405 016 2305	TR 2SC2878-B
Q1109	405 015 8704	TR 2SC2812-L6-TA
Q1110	405 018 2402	TR 2SC3398-TA
Q1111	405 015 8704	TR 2SC2812-L6-TA
INTEGRATED CIRCUIT		
IC1000	409 073 1509	IC AN5265
IC1100	409 119 3702	IC LA7955
IC1101	410 067 3201	IC TEA2014A

CAPACITOR				
C1000	403 125 5606	ELECT	100U M	16V
C1001	403 140 9207	NP-ELECT	10U M	16V
C1002	403 140 9207	NP-ELECT	10U M	16V
C1003	403 074 7706	CERAMIC	5600P K	50V
C1004	403 074 1902	CERAMIC	0.047U K	50V
C1005	403 125 5606	ELECT	100U M	16V
C1006	403 154 2102	NP-ELECT	1U M	50V
C1007	403 208 1402	TA-SOLID	1U M	25V
C1008	403 109 6407	ELECT	10U M	50V
C1009	403 109 6407	ELECT	10U M	50V
C1010	403 191 7009	ELECT	470U M	25V
C1011	403 208 1402	TA-SOLID	1U M	25V
C1012	403 231 1301	ELECT	1000U M	25V
C1102	403 107 9905	ELECT	10U M	16V
C1103	403 107 9905	ELECT	10U M	16V
C1104	403 107 9905	ELECT	10U M	16V
C1105	403 107 9905	ELECT	10U M	16V
C1106	403 107 9905	ELECT	10U M	16V
C1107	403 107 9905	ELECT	10U M	16V
C1108	403 134 9602	ELECT	47U M	16V
C1113	403 166 1506	NP-ELECT	47U M	16V
C1114	403 134 9602	ELECT	47U M	16V
C1117	403 134 9602	ELECT	47U M	16V
C1118	403 069 9609	CERAMIC	0.01U Z	50V
C1119	403 125 5606	ELECT	100U M	16V
C1120	403 134 9602	ELECT	47U M	16V
C1121	403 069 9609	CERAMIC	0.01U Z	50V
C1122	403 107 9905	ELECT	10U M	16V
C1123	403 107 9905	ELECT	10U M	16V
C1124	403 107 9905	ELECT	10U M	16V
C1125	403 107 9905	ELECT	10U M	16V
C1126	403 125 5606	ELECT	100U M	16V
C1127	403 134 6007	ELECT	330U M	16V
C1129	403 069 9609	CERAMIC	0.01U Z	50V
RESISTER				
R1000	401 035 5402	MT-GLAZE	100K JA	1/8W
R1001	401 035 7109	MT-GLAZE	120K JA	1/8W
R1002	401 035 5402	MT-GLAZE	100K JA	1/8W
R1003	401 035 7109	MT-GLAZE	120K JA	1/8W
R1004	401 036 6408	MT-GLAZE	390 JA	1/8W
R1005	401 037 0108	MT-GLAZE	5.6K JA	1/8W
R1006	401 035 5204	MT-GLAZE	10K JA	1/8W
R1007	401 037 0108	MT-GLAZE	5.6K JA	1/8W
R1008	401 037 0405	MT-GLAZE	56K JA	1/8W
R1009	401 037 0405	MT-GLAZE	56K JA	1/8W
R1010	401 037 0108	MT-GLAZE	5.6K JA	1/8W
R1011	401 035 8007	MT-GLAZE	15K JA	1/8W
R1012	401 019 6302	CARBON	4.7 JB	1/4W
R1013	401 037 3703	MT-GLAZE	820 JA	1/8W
R1014	401 036 6507	MT-GLAZE	3.9K JA	1/8W
R1015	401 036 1700	MT-GLAZE	22K JA	1/8W
R1016	401 071 0607	OXIDE-MT	15 JA	3W
R1017	401 070 8000	OXIDE-MT	12 JA	3W
R1018	401 035 5204	MT-GLAZE	10K JA	1/8W
R1019	401 037 1907	MT-GLAZE	680 JA	1/8W
R1020	401 035 5204	MT-GLAZE	10K JA	1/8W
R1102	401 035 4900	MT-GLAZE	1K JA	1/8W
R1103	401 035 4900	MT-GLAZE	1K JA	1/8W
R1104	401 024 7004	CARBON	1K JA	1/6W
R1105	401 024 7004	CARBON	1K JA	1/6W
R1106	401 036 8808	MT-GLAZE	470K JA	1/8W
R1107	401 036 8808	MT-GLAZE	470K JA	1/8W
R1108	401 022 6801	CARBON	75 JA	1/4W
R1109	401 035 5204	MT-GLAZE	10K JA	1/8W
R1110	401 036 8105	MT-GLAZE	470 JA	1/8W
R1111	401 036 8105	MT-GLAZE	470 JA	1/8W
R1112	401 035 4900	MT-GLAZE	1K JA	1/8W
R1113	401 022 6801	CARBON	75 JA	1/4W
R1114	401 035 5402	MT-GLAZE	100K JA	1/8W
R1115	401 035 5402	MT-GLAZE	100K JA	1/8W
R1116	401 024 6700	CARBON	100 JA	1/6W
R1117	401 024 6700	CARBON	100 JA	1/6W
R1120	401 036 5104	MT-GLAZE	33K JA	1/8W
R1121	401 036 7801	MT-GLAZE	47 JA	1/8W
R1122	401 035 4603	MT-GLAZE	100 JA	1/8W
R1123	401 037 3703	MT-GLAZE	820 JA	1/8W
R1124	*401 037 3703*	*MT-GLAZE*	*820 JA*	*1/8W*
R1125	401 025 1605	CARBON	1.5K JA	1/6W

Ref. No.	Part No.	Description
R1126	401 024 7004	CARBON 1K JA 1/6W
R1127	401 035 9301	MT-GLAZE 1.8K JA 1/8W
R1128	401 035 5204	MT-GLAZE 10K JA 1/8W
R1129	401 035 5204	MT-GLAZE 10K JA 1/8W
R1130	401 037 4502	MT-GLAZE 9.1K JA 1/8W
R1131	401 024 7004	CARBON 1K JA 1/6W
R1132	401 027 8305	CARBON 820 JA 1/6W
R1133	401 026 9600	CARBON 470 JA 1/6W
R1134	401 036 3100	MT-GLAZE 27K JA 1/8W
R1135	401 037 2300	MT-GLAZE 68K JA 1/8W
R1136	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R1137	401 037 1907	MT-GLAZE 680 JA 1/8W
R1138	401 037 1907	MT-GLAZE 680 JA 1/8W
R1139	401 035 5402	MT-GLAZE 100K JA 1/8W
R1140	401 035 5402	MT-GLAZE 100K JA 1/8W
R1141	401 035 5204	MT-GLAZE 10K JA 1/8W
R1142	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R1143	401 035 4900	MT-GLAZE 1K JA 1/8W
R1144	401 036 3100	MT-GLAZE 27K JA 1/8W
R1145	401 020 0801	CARBON 470 JA 1/4W
R1146	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R1147	401 008 1608	CARBON 1.8K JA 1/2W
R1148	401 035 9301	MT-GLAZE 1.8K JA 1/8W
R1149	401 024 6700	CARBON 100 JA 1/6W
COIL		
L1000	610 029 5988	INDUCTOR, 12U K
DIODE		
D1000	407 071 8803	ZENER DIODE DZD9.1X-TA
	407 071 8902	ZENER DIODE DZD9.1Y-TA
D1001	407 007 9904	DIODE GMA01
	407 012 4406	DIODE 1SS133
	407 012 5809	DIODE 1SS176
D1002	407 007 9904	DIODE GMA01
	407 012 4406	DIODE 1SS133
	407 012 5809	DIODE 1SS176
D1106	407 004 8009	DIODE DSB015-TA
D1107	407 004 8009	DIODE DSB015-TA
D1108	407 004 8009	DIODE DSB015-TA
D1131	407 075 9905	ZENER DIODE EQA03-11A
D1132	407 075 9905	ZENER DIODE EQA03-11A
D1133	407 075 9905	ZENER DIODE EQA03-11A
D1134	407 075 9905	ZENER DIODE EQA03-11A
D1135	407 075 9905	ZENER DIODE EQA03-11A
D1136	407 075 9905	ZENER DIODE EQA03-11A
D1137	407 075 9905	ZENER DIODE EQA03-11A
D1138	407 075 9905	ZENER DIODE EQA03-11A
D1139	407 075 9905	ZENER DIODE EQA03-11A
D1140	407 075 9905	ZENER DIODE EQA03-11A
D1142	407 071 0005	ZENER DIODE DZD12X-TA
	407 071 0104	ZENER DIODE DZD12Y-TA
	407 071 0203	ZENER DIODE DZD12Z-TA
D1143	407 071 0005	ZENER DIODE DZD12X-TA
	407 071 0104	ZENER DIODE DZD12Y-TA
	407 071 0203	ZENER DIODE DZD12Z-TA
D1144	407 071 0005	ZENER DIODE DZD12X-TA
	407 071 0104	ZENER DIODE DZD12Y-TA
	407 071 0203	ZENER DIODE DZD12Z-TA
MISCELLANEUS		
SW1001	610 011 2667	SWITCH, PUSH
610 239 4511 UE2576X1		TM&LC DRIV PCB ASSY E5SA
TRANSISTER		
Q202	405 002 6706	TR 2SA1179-M6-TA
Q203	405 015 8704	TR 2SC2812-L6-TA
Q204	405 018 0002	TR 2SC3331-S
	405 018 0101	TR 2SC3331-T
Q205	405 003 5609	TR 2SA1318-S
	405 003 5708	TR 2SA1318-T
Q222	405 002 6706	TR 2SA1179-M6-TA
Q223	405 015 8704	TR 2SC2812-L6-TA
Q224	405 018 0002	TR 2SC3331-S
	405 018 0101	TR 2SC3331-T
Q225	405 003 5609	TR 2SA1318-S
	405 003 5708	TR 2SA1318-T
Q242	405 002 6706	TR 2SA1179-M6-TA
Q243	405 015 8704	TR 2SC2812-L6-TA
Q244	405 018 0002	TR 2SC3331-S
	405 018 0101	TR 2SC3331-T
Q245	405 003 5609	TR 2SA1318-S
	405 003 5708	TR 2SA1318-T
Q291	405 007 2901	TR 2SB544-E-MP
	405 007 3106	TR 2SB544-F-MP
Q292	405 015 8704	TR 2SC2812-L6-TA
Q305	405 015 8704	TR 2SC2812-L6-TA
Q306	405 002 6706	TR 2SA1179-M6-TA
Q381	405 015 8704	TR 2SC2812-L6-TA
Q382	405 015 8704	TR 2SC2812-L6-TA
Q401	405 002 6706	TR 2SA1179-M6-TA
Q402	405 015 8704	TR 2SC2812-L6-TA
Q403	405 015 8704	TR 2SC2812-L6-TA
Q404	405 015 8704	TR 2SC2812-L6-TA
Q502	405 015 8704	TR 2SC2812-L6-TA
Q511	405 002 6706	TR 2SA1179-M6-TA
Q512	405 015 8704	TR 2SC2812-L6-TA
Q513	405 018 0002	TR 2SC3331-S
	405 018 0101	TR 2SC3331-T
Q514	405 003 5609	TR 2SA1318-S
	405 003 5708	TR 2SA1318-T
Q522	405 015 8704	TR 2SC2812-L6-TA
Q531	405 002 6706	TR 2SA1179-M6-TA
Q532	405 015 8704	TR 2SC2812-L6-TA
Q533	405 018 0002	TR 2SC3331-S
	405 018 0101	TR 2SC3331-T
Q534	405 003 5609	TR 2SA1318-S
	405 003 5708	TR 2SA1318-T
Q542	405 015 8704	TR 2SC2812-L6-TA
Q551	405 002 6706	TR 2SA1179-M6-TA
Q552	405 015 8704	TR 2SC2812-L6-TA
Q553	405 018 0002	TR 2SC3331-S
	405 018 0101	TR 2SC3331-T
Q554	405 003 5609	TR 2SA1318-S
	405 003 5708	TR 2SA1318-T
Q571	405 015 8704	TR 2SC2812-L6-TA
Q6303	405 015 8704	TR 2SC2812-L6-TA
Q6304	405 015 8704	TR 2SC2812-L6-TA
Q6305	405 015 8704	TR 2SC2812-L6-TA
Q6306	405 015 8704	TR 2SC2812-L6-TA
Q6307	405 015 8704	TR 2SC2812-L6-TA
Q6308	405 015 8704	TR 2SC2812-L6-TA
Q6313	405 015 8704	TR 2SC2812-L6-TA
Q6314	405 015 8704	TR 2SC2812-L6-TA
Q6323	405 015 8704	TR 2SC2812-L6-TA
Q6324	405 015 8704	TR 2SC2812-L6-TA
Q6331	405 015 8704	TR 2SC2812-L6-TA
Q6332	405 015 8704	TR 2SC2812-L6-TA
Q6333	405 015 8704	TR 2SC2812-L6-TA
Q6334	405 015 8704	TR 2SC2812-L6-TA
Q6335	405 002 6706	TR 2SA1179-M6-TA
Q6336	405 002 6706	TR 2SA1179-M6-TA
Q6337	405 002 6706	TR 2SA1179-M6-TA
Q6362	405 015 8704	TR 2SC2812-L6-TA
Q6364	405 015 8704	TR 2SC2812-L6-TA
Q6471	405 002 6706	TR 2SA1179-M6-TA
Q6570	405 002 6706	TR 2SA1179-M6-TA
Q6571	405 002 6706	TR 2SA1179-M6-TA
Q6572	405 002 6706	TR 2SA1179-M6-TA
Q6573	405 002 6706	TR 2SA1179-M6-TA
Q6574	405 002 6706	TR 2SA1179-M6-TA
Q6575	405 015 8704	TR 2SC2812-L6-TA
INTEGRATED CIRCUIT		
IC201	409 314 4801	IC LA7665AM
	409 274 3401	IC LA7665M
IC301	409 240 7303	IC CXA1216P
IC302	409 157 7403	IC AN614
IC401	409 294 4105	IC LC92060A-772
IC402	409 022 0805	IC LC74HCU04
	409 031 5600	IC MC74HCU04N
IC404	409 223 1809	IC MC74HC04AF-R1
IC571	409 196 2605	IC L7815-LU
IC572	409 124 5708	IC L78M09T
IC6201	409 160 0507	IC UPD6326C
IC6301	409 280 5208	IC MB40568PF-TP-T1
IC6302	409 280 5208	IC MB40568PF-TP-T1
IC6304	409 251 1406	IC UPD42102G-3
IC6305	409 251 1406	IC UPD42102G-3
IC6307	409 247 5203	IC LC9123A-511
IC6308	409 247 5203	IC LC9123A-511
IC6310	409 251 1406	IC UPD42102G-3
IC6311	409 251 1406	IC UPD42102G-3
IC6312	409 264 5705	IC MB40968VPF
IC6313	409 196 6108	IC MC74HC4053F
IC6314	409 280 5307	IC MC74F244MR
IC6316	409 196 6108	IC MC74HC4053F
CAPACITOR		
C201	403 041 9405	ELECT 10U M 16V
C202	403 134 5505	ELECT 10U M 25V
C204	403 069 9609	CERAMIC 0.01U Z 50V
C205	403 049 0800	ELECT 1U M 50V
C206	403 069 9609	CERAMIC 0.01U Z 50V
C207	403 121 3408	ELECT 2.2U M 50V
C208	403 069 9609	CERAMIC 0.01U Z 50V
C215	403 028 5000	CERAMIC 56P J 50V
C216	403 028 5000	CERAMIC 56P J 50V
C217	403 049 0800	ELECT 1U M 50V
C221	403 041 9405	ELECT 10U M 16V
C222	403 134 5505	ELECT 10U M 25V
C224	403 069 9609	CERAMIC 0.01U Z 50V
C225	403 049 0800	ELECT 1U M 50V
C227	403 121 3408	ELECT 2.2U M 50V
C228	403 069 9609	CERAMIC 0.01U Z 50V
C235	403 028 5000	CERAMIC 56P J 50V
C236	403 028 5000	CERAMIC 56P J 50V
C237	403 049 0800	ELECT 1U M 50V
C241	403 041 9405	ELECT 10U M 16V
C242	403 134 5505	ELECT 10U M 25V
C244	403 069 9609	CERAMIC 0.01U Z 50V
C245	403 049 0800	ELECT 1U M 50V
C246	403 069 9609	CERAMIC 0.01U Z 50V
C247	403 121 3408	ELECT 2.2U M 50V
C248	403 069 9609	CERAMIC 0.01U Z 50V
C255	403 028 5000	CERAMIC 56P J 50V
C256	403 028 5000	CERAMIC 56P J 50V
C257	403 049 0800	ELECT 1U M 50V
C261	403 069 9609	CERAMIC 0.01U Z 50V
C262	403 069 9609	CERAMIC 0.01U Z 50V
C263	403 069 9609	CERAMIC 0.01U Z 50V
C264	403 049 0800	ELECT 1U M 50V
C265	403 069 9609	CERAMIC 0.01U Z 50V
C266	403 125 5002	NP-ELECT 1U M 50V
C267	403 050 0509	ELECT 2.2U M 50V
C268	403 051 1307	ELECT 4.7U M 50V
C269	403 069 9609	CERAMIC 0.01U Z 50V
C270	403 069 9609	CERAMIC 0.01U Z 50V
C274	403 043 9601	ELECT 47U M 16V
C275	403 069 9609	CERAMIC 0.01U Z 50V
C276	403 051 1307	ELECT 4.7U M 50V
C277	403 043 9601	ELECT 47U M 16V
C278	403 069 9609	CERAMIC 0.01U Z 50V
C279	403 069 9609	CERAMIC 0.01U Z 50V
C286	403 069 9609	CERAMIC 0.01U Z 50V
C289	403 041 9405	ELECT 10U M 16V
C290	403 069 9609	CERAMIC 0.01U Z 50V
C291	403 049 0800	ELECT 1U M 50V
C292	403 069 9609	CERAMIC 0.01U Z 50V
C293	403 069 9609	CERAMIC 0.01U Z 50V
C294	403 043 9601	ELECT 47U M 16V
C301	403 125 5606	ELECT 100U M 16V
C306	403 043 9601	ELECT 47U M 16V
C312	403 069 9609	CERAMIC 0.01U Z 50V
C313	403 069 9609	CERAMIC 0.01U Z 50V
C314	403 069 1801	CERAMIC 1000P K 50V
C315	403 069 9609	CERAMIC 0.01U Z 50V
C357	403 073 7400	CERAMIC 470P K 50V
C361	403 067 6709	MT-COMPO 0.22U J 50V
C362	403 067 6709	MT-COMPO 0.22U J 50V
C363	403 067 6709	MT-COMPO 0.22U J 50V
C364	403 041 9405	ELECT 10U M 16V
C365	403 009 6309	CERAMIC 100P J 50V
C366	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
C368	403 008 8205	CERAMIC 10P D 50V
C369	403 042 8308	ELECT 22U M 16V
C370	403 048 6902	ELECT 0.47U M 50V
C371	403 048 6902	ELECT 0.47U M 50V
C372	403 048 6902	ELECT 0.47U M 50V
C373	403 069 9609	CERAMIC 0.01U Z 50V
C374	403 069 9609	CERAMIC 0.01U Z 50V
C375	403 069 9609	CERAMIC 0.01U Z 50V
C376	403 049 0800	ELECT 1U M 50V
C377	403 049 0800	ELECT 1U M 50V
C378	403 042 3006	ELECT 100U M 16V
C379	403 069 9609	CERAMIC 0.01U Z 50V
C385	403 069 9609	CERAMIC 0.01U Z 50V
C401	403 183 4405	NP-ELECT 33U M 16V
C405	403 060 0001	POLYESTER 2700P J 50V
	403 060 0308	POLYESTER 2700P J 50V
C406	403 062 9309	POLYESTER 6800P J 50V
	403 062 9804	POLYESTER 6800P J 50V
C407	403 059 3006	POLYESTER 2200P J 50V
	403 059 3402	POLYESTER 2200P J 50V
C409	403 060 0001	POLYESTER 2700P J 50V
	403 060 0308	POLYESTER 2700P J 50V
	403 179 2309	POLYESTER 2700P J 50V
C411	403 179 4501	NP-ELECT 0.47U M 50V
C412	403 069 1801	CERAMIC 1000P K 50V
C413	403 009 6200	CERAMIC 100P J 50V
C414	403 009 6200	CERAMIC 100P J 50V
C415	403 009 6200	CERAMIC 100P J 50V
C417	403 070 2705	CERAMIC 0.1U Z 50V
C418	403 043 9601	ELECT 47U M 16V
C419	403 070 2705	CERAMIC 0.1U Z 50V
C420	403 012 4606	CERAMIC 15P J 50V
C421	403 024 0207	CERAMIC 39P J 50V
C422	403 043 9601	ELECT 47U M 16V
C423	403 070 2705	CERAMIC 0.1U Z 50V
C424	403 192 1006	TA-SOLID 47U M 6.3V
C425	403 069 9609	CERAMIC 0.01U Z 50V
C432	403 070 2705	CERAMIC 0.1U Z 50V
C433	403 043 9601	ELECT 47U M 16V
C434	403 070 2705	CERAMIC 0.1U Z 50V
C435	403 075 0805	CERAMIC 6800P K 50V
C436	403 070 2705	CERAMIC 0.1U Z 50V
C437	403 058 0501	POLYESTER 1500P J 50V
	403 058 0907	POLYESTER 1500P J 50V

Ref. No.	Part No.	Description
C438	403 043 9601	ELECT 47U M 16V
C439	403 070 2705	CERAMIC 0.1U Z 50V
C450	403 125 5002	NP-ELECT 1U M 50V
C451	403 075 0805	CERAMIC 6800P K 50V
C453	403 071 8201	CERAMIC 2200P K 50V
C454	403 070 2705	CERAMIC 0.1U Z 50V
C455	403 012 4606	CERAMIC 15P J 50V
C456	403 070 2705	CERAMIC 0.1U Z 50V
C458	403 070 2705	CERAMIC 0.1U Z 50V
C459	403 043 9601	ELECT 47U M 16V
C460	403 075 0805	CERAMIC 6800P K 50V
C461	403 125 5002	NP-ELECT 1U M 50V
C462	403 059 6205	POLYESTER 0.022U K 50V
	403 059 6700	POLYESTER 0.022U K 50V
C463	403 070 2705	CERAMIC 0.1U Z 50V
C464	403 022 6508	CERAMIC 33P J 50V
C465	403 070 2705	CERAMIC 0.1U Z 50V
C466	403 010 6404	CERAMIC 12P J 50V
C501	403 049 0800	ELECT 1U M 50V
C502	403 121 3408	ELECT 2.2U M 50V
C503	403 121 3408	ELECT 2.2U M 50V
C504	403 070 2705	CERAMIC 0.1U Z 50V
C509	403 070 2705	CERAMIC 0.1U Z 50V
C511	403 134 5505	ELECT 10U M 25V
C513	403 071 8201	CERAMIC 2200P K 50V
C521	403 049 0800	ELECT 1U M 50V
C522	403 121 3408	ELECT 2.2U M 50V
C523	403 121 3408	ELECT 2.2U M 50V
C524	403 070 2705	CERAMIC 0.1U Z 50V
C529	403 070 2705	CERAMIC 0.1U Z 50V
C531	403 134 5505	ELECT 10U M 25V
C533	403 071 8201	CERAMIC 2200P K 50V
C541	403 049 0800	ELECT 1U M 50V
C542	403 121 3408	ELECT 2.2U M 50V
C543	403 121 3408	ELECT 2.2U M 50V
C544	403 070 2705	CERAMIC 0.1U Z 50V
C549	403 070 2705	CERAMIC 0.1U Z 50V
C551	403 134 5505	ELECT 10U M 25V
C553	403 071 8201	CERAMIC 2200P K 50V
C562	403 069 9609	CERAMIC 0.01U Z 50V
C571	403 069 9609	CERAMIC 0.01U Z 50V
C572	403 109 6100	ELECT 220U M 35V
C573	403 069 9609	CERAMIC 0.01U Z 50V
C574	403 134 5802	ELECT 470U M 16V
C575	403 069 9609	CERAMIC 0.01U Z 50V
C576	403 125 5408	ELECT 100U M 35V
C577	403 069 9609	CERAMIC 0.01U Z 50V
C578	403 130 2805	ELECT 220U M 10V
C579	403 069 9609	CERAMIC 0.01U Z 50V
C580	403 069 9609	CERAMIC 0.01U Z 50V
C581	403 125 5408	ELECT 100U M 35V
C582	403 069 9609	CERAMIC 0.01U Z 50V
C583	403 069 9609	CERAMIC 0.01U Z 50V
C584	403 043 9601	ELECT 47U M 16V
C585	403 119 8408	ELECT 47U M 50V
C6201	403 043 9601	ELECT 47U M 16V
C6202	403 069 9609	CERAMIC 0.01U Z 50V
C6203	403 041 9405	ELECT 10U M 16V
C6204	403 069 9609	CERAMIC 0.01U Z 50V
C6206	403 069 9609	CERAMIC 0.01U Z 50V
C6207	403 167 1703	TA-SOLID 3.3U M 16V
C6209	403 069 9609	CERAMIC 0.01U Z 50V
C6210	403 042 8308	ELECT 22U M 16V
C6302	403 069 9609	CERAMIC 0.01U Z 50V
C6304	403 043 9601	ELECT 47U M 16V
C6305	403 070 2705	CERAMIC 0.1U Z 50V
C6306	403 041 9405	ELECT 10U M 16V
C6307	403 049 0800	ELECT 1U M 50V
C6308	403 043 9601	ELECT 47U M 16V
C6309	403 070 2705	CERAMIC 0.1U Z 50V
C6310	403 043 9601	ELECT 47U M 16V
C6312	403 070 2705	CERAMIC 0.1U Z 50V
C6313	403 043 9601	ELECT 47U M 16V
C6314	403 070 2705	CERAMIC 0.1U Z 50V
C6315	403 043 9601	ELECT 47U M 16V
C6316	403 070 2705	CERAMIC 0.1U Z 50V
C6318	403 070 2705	CERAMIC 0.1U Z 50V
C6319	403 022 9004	CERAMIC 33P J 50V
C6320	403 008 8205	CERAMIC 10P D 50V
C6324	403 043 9601	ELECT 47U M 16V
C6325	403 070 2705	CERAMIC 0.1U Z 50V
C6327	403 049 0800	ELECT 1U M 50V
C6328	403 043 9601	ELECT 47U M 16V
C6329	403 070 2705	CERAMIC 0.1U Z 50V
C6330	403 043 9601	ELECT 47U M 16V
C6332	403 070 2705	CERAMIC 0.1U Z 50V
C6333	403 043 9601	ELECT 47U M 16V
C6334	403 070 2705	CERAMIC 0.1U Z 50V
C6335	403 043 9601	ELECT 47U M 16V
C6336	403 070 2705	CERAMIC 0.1U Z 50V
C6338	403 070 2705	CERAMIC 0.1U Z 50V
C6340	403 009 6101	CERAMIC 100P J 50V
C6341	403 125 5002	NP-ELECT 1U M 50V
C6342	403 125 5002	NP-ELECT 1U M 50V
C6343	403 042 8308	ELECT 22U M 16V
C6348	403 208 1402	TA-SOLID 1U M 25V
C6349	403 022 8809	CERAMIC 33P J 50V
C6351	403 029 8000	CERAMIC 6P D 50V
C6360	403 009 6101	CERAMIC 100P J 50V
C6361	403 043 9601	ELECT 47U M 16V
C6362	403 043 9601	ELECT 47U M 16V
C6363	403 070 2705	CERAMIC 0.1U Z 50V
C6364	403 070 2705	CERAMIC 0.1U Z 50V
C6365	403 192 1006	TA-SOLID 47U M 6.3V
C6366	403 070 2705	CERAMIC 0.1U Z 50V
C6367	403 208 1402	TA-SOLID 1U M 25V
C6369	403 022 8809	CERAMIC 33P J 50V
C6371	403 029 8000	CERAMIC 6P D 50V
C6378	403 069 9609	CERAMIC 0.01U Z 50V
C6379	403 043 9601	ELECT 47U M 16V
C6381	403 073 3600	CERAMIC 390P K 50V
C6382	403 073 3600	CERAMIC 390P K 50V
C6383	403 070 2705	CERAMIC 0.1U Z 50V
C6384	403 192 1006	TA-SOLID 47U M 6.3V
C6386	403 167 1703	TA-SOLID 3.3U M 16V
C6387	403 069 9609	CERAMIC 0.01U Z 50V
C6572	403 070 2705	CERAMIC 0.1U Z 50V
C6573	403 041 9405	ELECT 10U M 16V
RESISTER		
R201	401 036 1700	MT-GLAZE 22K JA 1/8W
R202	401 035 4900	MT-GLAZE 1K JA 1/8W
R203	401 035 6904	MT-GLAZE 12K JA 1/8W
R204	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R207	401 035 7901	MT-GLAZE 1.5K JA 1/8W
R209	401 037 0405	MT-GLAZE 56K JA 1/8W
R210	401 037 0405	MT-GLAZE 56K JA 1/8W
R212	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R213	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R214	401 012 4503	CARBON 100 JA 1/4W
R215	401 012 3407	CARBON 10 JA 1/4W
R216	401 012 3407	CARBON 10 JA 1/4W
R217	401 012 4503	CARBON 100 JA 1/4W
R219	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R221	401 036 1700	MT-GLAZE 22K JA 1/8W
R222	401 035 4900	MT-GLAZE 1K JA 1/8W
R224	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R227	401 035 7901	MT-GLAZE 1.5K JA 1/8W
R229	401 037 0405	MT-GLAZE 56K JA 1/8W
R230	401 037 0405	MT-GLAZE 56K JA 1/8W

Ref. No.	Part No.	Description
R232	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R233	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R234	401 012 4503	CARBON 100 JA 1/4W
R235	401 012 3407	CARBON 10 JA 1/4W
R236	401 012 3407	CARBON 10 JA 1/4W
R237	401 012 4503	CARBON 100 JA 1/4W
R239	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R241	401 036 1700	MT-GLAZE 22K JA 1/8W
R242	401 035 4900	MT-GLAZE 1K JA 1/8W
R243	401 035 6904	MT-GLAZE 12K JA 1/8W
R244	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R247	401 035 7901	MT-GLAZE 1.5K JA 1/8W
R249	401 037 0405	MT-GLAZE 56K JA 1/8W
R250	401 037 0405	MT-GLAZE 56K JA 1/8W
R252	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R253	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R254	401 012 4503	CARBON 100 JA 1/4W
R255	401 012 3407	CARBON 10 JA 1/4W
R256	401 012 3407	CARBON 10 JA 1/4W
R257	401 012 4503	CARBON 100 JA 1/4W
R259	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R260	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R262	401 036 1700	MT-GLAZE 22K JA 1/8W
R263	401 035 4900	MT-GLAZE 1K JA 1/8W
R264	401 035 5204	MT-GLAZE 10K JA 1/8W
R265	401 036 4800	MT-GLAZE 3.3K JA 1/8W
R267	401 035 4900	MT-GLAZE 1K JA 1/8W
R268	401 035 7901	MT-GLAZE 1.5K JA 1/8W
R269	401 036 4800	MT-GLAZE 3.3K JA 1/8W
R270	401 036 2103	MT-GLAZE 2.2M JA 1/8W
R271	401 035 5709	MT-GLAZE 1M JA 1/8W
R274	401 036 5104	MT-GLAZE 33K JA 1/8W
R275	401 036 3100	MT-GLAZE 27K JA 1/8W
R276	401 036 6507	MT-GLAZE 3.9K JA 1/8W
R280	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R281	401 035 4603	MT-GLAZE 100 JA 1/8W
R282	401 035 4900	MT-GLAZE 1K JA 1/8W
R284	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R286	401 035 5204	MT-GLAZE 10K JA 1/8W
R287	401 035 5204	MT-GLAZE 10K JA 1/8W
R291	402 001 7703	FUSIBLE RES 56 J- 1/4W
R292	401 010 3102	CARBON 470 JA 1/2W
R293	401 012 5708	CARBON 1K JA 1/4W
R294	401 035 9806	MT-GLAZE 18K JA 1/8W
R295	401 036 3100	MT-GLAZE 27K JA 1/8W
R323	401 035 6904	MT-GLAZE 12K JA 1/8W
R324	401 035 6904	MT-GLAZE 12K JA 1/8W
R325	401 037 1907	MT-GLAZE 680 JA 1/8W
R326	401 035 4900	MT-GLAZE 1K JA 1/8W
R327	401 035 4900	MT-GLAZE 1K JA 1/8W
R328	401 035 4900	MT-GLAZE 1K JA 1/8W
R329	401 035 6805	MT-GLAZE 1.2K JA 1/8W
R331	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R333	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R334	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R350	401 035 5204	MT-GLAZE 10K JA 1/8W
R351	401 035 5204	MT-GLAZE 10K JA 1/8W
R352	401 035 4900	MT-GLAZE 1K JA 1/8W
R353	401 035 5204	MT-GLAZE 10K JA 1/8W
R354	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R361	401 035 4900	MT-GLAZE 1K JA 1/8W
R362	401 035 5204	MT-GLAZE 10K JA 1/8W
R363	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R364	401 036 5302	MT-GLAZE 330K JA 1/8W
R365	401 035 9301	MT-GLAZE 1.8K JA 1/8W
R366	401 035 6607	MT-GLAZE 120 JA 1/8W
R367	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R368	401 036 7801	MT-GLAZE 47 JA 1/8W
R369	401 036 7801	MT-GLAZE 47 JA 1/8W
R370	401 036 7801	MT-GLAZE 47 JA 1/8W
R371	401 036 2806	MT-GLAZE 2.7K JA 1/8W
R372	401 037 2102	MT-GLAZE 6.8K JA 1/8W
R374	401 035 5204	MT-GLAZE 10K JA 1/8W
R375	401 035 5204	MT-GLAZE 10K JA 1/8W
R376	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R377	401 035 9301	MT-GLAZE 1.8K JA 1/8W
R381	401 036 1700	MT-GLAZE 22K JA 1/8W
R382	401 035 5204	MT-GLAZE 10K JA 1/8W
R383	401 036 1700	MT-GLAZE 22K JA 1/8W
R384	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R386	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R387	401 036 2806	MT-GLAZE 2.7K JA 1/8W
R389	401 037 2102	MT-GLAZE 6.8K JA 1/8W
R390	401 035 5204	MT-GLAZE 10K JA 1/8W
R402	401 036 6606	MT-GLAZE 39K JA 1/8W
R403	401 035 5204	MT-GLAZE 10K JA 1/8W
R405	401 036 8105	MT-GLAZE 470 JA 1/8W
R406	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R407	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R408	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R410	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R411	401 036 4701	MT-GLAZE 330 JA 1/8W
R412	401 036 6903	MT-GLAZE 390K JA 1/8W
R414	401 037 3109	MT-GLAZE 7.5K JA 1/8W
R415	401 036 6903	MT-GLAZE 390K JA 1/8W
R416	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R418	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R421	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R423	401 035 4603	MT-GLAZE 100 JA 1/8W
R424	401 035 4603	MT-GLAZE 100 JA 1/8W
R425	401 035 4603	MT-GLAZE 100 JA 1/8W
R427	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R430	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R431	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R432	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R434	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R435	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R436	401 036 4800	MT-GLAZE 3.3K JA 1/8W
R437	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R438	401 036 4800	MT-GLAZE 3.3K JA 1/8W
R439	401 035 4306	MT-GLAZE 10 JA 1/8W
R440	401 035 5402	MT-GLAZE 100K JA 1/8W
R441	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R447	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R450	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R452	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R453	401 090 8202	MT-GLAZE 750K JA 1/8W
R454	401 036 8501	MT-GLAZE 47K JA 1/8W
R455	401 037 1402	MT-GLAZE 6.2K JA 1/8W
R456	401 037 2607	MT-GLAZE 680K JA 1/8W
R457	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R458	401 035 5204	MT-GLAZE 10K JA 1/8W
R459	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R461	401 035 4900	MT-GLAZE 1K JA 1/8W
R462	401 035 5204	MT-GLAZE 10K JA 1/8W
R464	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R465	401 036 1700	MT-GLAZE 22K JA 1/8W
R466	401 035 5204	MT-GLAZE 10K JA 1/8W
R467	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R468	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R473	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R476	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R480	401 037 3802	MT-GLAZE 8.2K JA 1/8W
R481	401 035 4900	MT-GLAZE 1K JA 1/8W
R482	401 035 8205	MT-GLAZE 150K JA 1/8W
R483	401 035 4306	MT-GLAZE 10 JA 1/8W
R484	401 035 5402	MT-GLAZE 100K JA 1/8W
R485	401 037 2102	MT-GLAZE 6.8K JA 1/8W
R486	401 035 4900	MT-GLAZE 1K JA 1/8W
R487	401 035 4306	MT-GLAZE 10 JA 1/8W

Ref. No.	Part No.	Description
R488	401 035 5402	MT-GLAZE 100K JA 1/8W
R489	401 035 8205	MT-GLAZE 150K JA 1/8W
R501	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R502	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R503	401 037 3703	MT-GLAZE 820 JA 1/8W
R504	401 036 4701	MT-GLAZE 330 JA 1/8W
R508	401 035 4603	MT-GLAZE 100 JA 1/8W
R509	401 036 6606	MT-GLAZE 39K JA 1/8W
R510	401 036 8501	MT-GLAZE 47K JA 1/8W
R511	401 036 6507	MT-GLAZE 3.9K JA 1/8W
R512	401 036 6507	MT-GLAZE 3.9K JA 1/8W
R513	401 012 4503	CARBON 100 JA 1/4W
R514	401 012 3407	CARBON 10 JA 1/4W
R515	401 012 3407	CARBON 10 JA 1/4W
R516	401 012 4503	CARBON 100 JA 1/4W
R521	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R522	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R523	401 037 3703	MT-GLAZE 820 JA 1/8W
R524	401 036 4701	MT-GLAZE 330 JA 1/8W
R528	401 035 4603	MT-GLAZE 100 JA 1/8W
R529	401 036 6606	MT-GLAZE 39K JA 1/8W
R530	401 036 8501	MT-GLAZE 47K JA 1/8W
R531	401 036 6507	MT-GLAZE 3.9K JA 1/8W
R532	401 036 6507	MT-GLAZE 3.9K JA 1/8W
R533	401 012 4503	CARBON 100 JA 1/4W
R534	401 012 3407	CARBON 10 JA 1/4W
R535	401 012 3407	CARBON 10 JA 1/4W
R536	401 012 4503	CARBON 100 JA 1/4W
R541	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R542	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R543	401 037 3703	MT-GLAZE 820 JA 1/8W
R544	401 036 4701	MT-GLAZE 330 JA 1/8W
R548	401 035 4603	MT-GLAZE 100 JA 1/8W
R549	401 036 6606	MT-GLAZE 39K JA 1/8W
R550	401 036 8501	MT-GLAZE 47K JA 1/8W
R551	401 036 6507	MT-GLAZE 3.9K JA 1/8W
R552	401 036 6507	MT-GLAZE 3.9K JA 1/8W
R553	401 012 4503	CARBON 100 JA 1/4W
R554	401 012 3407	CARBON 10 JA 1/4W
R555	401 012 3407	CARBON 10 JA 1/4W
R556	401 012 4503	CARBON 100 JA 1/4W
R571	401 062 0302	OXIDE-MT 47 JA 1W
R572	401 007 4204	CARBON 120 JA 1/2W
R574	401 035 9806	MT-GLAZE 18K JA 1/8W
R575	401 036 3100	MT-GLAZE 27K JA 1/8W
R6205	401 035 4603	MT-GLAZE 100 JA 1/8W
R6206	401 035 4603	MT-GLAZE 100 JA 1/8W
R6207	401 035 4603	MT-GLAZE 100 JA 1/8W
R6208	401 087 6204	CARBON 0.000 ZA 1/6W
R6209	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R6210	401 037 2102	MT-GLAZE 6.8K JA 1/8W
R6211	401 037 2102	MT-GLAZE 6.8K JA 1/8W
R6212	401 035 5204	MT-GLAZE 10K JA 1/8W
R6213	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R6214	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R6215	401 035 5204	MT-GLAZE 10K JA 1/8W
R6216	401 037 3901	MT-GLAZE 82K JA 1/8W
R6217	401 035 5204	MT-GLAZE 10K JA 1/8W
R6218	401 035 7901	MT-GLAZE 1.5K JA 1/8W
R6219	401 035 7901	MT-GLAZE 1.5K JA 1/8W
R6220	401 036 2806	MT-GLAZE 2.7K JA 1/8W
R6222	401 036 1700	MT-GLAZE 22K JA 1/8W
R6224	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R6225	401 036 8501	MT-GLAZE 47K JA 1/8W
R6226	401 035 9806	MT-GLAZE 18K JA 1/8W
R6228	401 036 1601	MT-GLAZE 2.2K JA 1/8W
R6230	401 037 3802	MT-GLAZE 8.2K JA 1/8W
R6231	401 035 6904	MT-GLAZE 12K JA 1/8W
R6232	401 037 0108	MT-GLAZE 5.6K JA 1/8W
R6233	401 035 4900	MT-GLAZE 1K JA 1/8W
R6253	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R6254	401 037 2102	MT-GLAZE 6.8K JA 1/8W
R6255	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6271	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6272	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6273	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6274	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6291	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6292	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6293	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6294	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6295	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6296	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6297	401 036 1700	MT-GLAZE 22K JA 1/8W
R6301	401 035 4900	MT-GLAZE 1K JA 1/8W
R6302	401 035 4900	MT-GLAZE 1K JA 1/8W
R6305	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6306	401 035 4306	MT-GLAZE 10 JA 1/8W
R6307	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6309	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6310	401 035 4900	MT-GLAZE 1K JA 1/8W
R6311	401 035 4900	MT-GLAZE 1K JA 1/8W
R6312	401 035 4900	MT-GLAZE 1K JA 1/8W
R6313	401 037 1907	MT-GLAZE 680 JA 1/8W
R6314	401 035 5204	MT-GLAZE 10K JA 1/8W
R6315	401 035 9301	MT-GLAZE 1.8K JA 1/8W
R6317	401 035 4900	MT-GLAZE 1K JA 1/8W
R6318	401 036 4800	MT-GLAZE 3.3K JA 1/8W
R6321	401 035 4900	MT-GLAZE 1K JA 1/8W
R6322	401 035 4900	MT-GLAZE 1K JA 1/8W
R6323	401 035 7901	MT-GLAZE 1.5K JA 1/8W
R6324	401 035 4900	MT-GLAZE 1K JA 1/8W
R6325	401 035 4900	MT-GLAZE 1K JA 1/8W
R6326	401 035 7901	MT-GLAZE 1.5K JA 1/8W
R6327	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6329	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6330	401 035 4900	MT-GLAZE 1K JA 1/8W
R6331	401 035 4900	MT-GLAZE 1K JA 1/8W
R6332	401 035 4900	MT-GLAZE 1K JA 1/8W
R6333	401 037 1907	MT-GLAZE 680 JA 1/8W
R6335	401 035 7901	MT-GLAZE 1.5K JA 1/8W
R6336	401 035 5204	MT-GLAZE 10K JA 1/8W
R6337	401 035 5204	MT-GLAZE 10K JA 1/8W
R6338	401 035 4900	MT-GLAZE 1K JA 1/8W
R6339	401 035 4900	MT-GLAZE 1K JA 1/8W
R6341	401 035 6805	MT-GLAZE 1.2K JA 1/8W
R6345	401 035 4900	MT-GLAZE 1K JA 1/8W
R6346	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6347	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6350	401 035 4900	MT-GLAZE 1K JA 1/8W
R6351	401 035 4900	MT-GLAZE 1K JA 1/8W
R6352	401 035 9301	MT-GLAZE 1.8K JA 1/8W
R6353	401 037 1907	MT-GLAZE 680 JA 1/8W
R6361	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6362	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6363	401 035 5204	MT-GLAZE 10K JA 1/8W
R6364	401 035 4900	MT-GLAZE 1K JA 1/8W
R6366	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6367	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6371	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6372	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6373	401 035 5204	MT-GLAZE 10K JA 1/8W
R6374	401 035 4900	MT-GLAZE 1K JA 1/8W
R6375	401 035 5204	MT-GLAZE 10K JA 1/8W
R6376	401 035 4900	MT-GLAZE 1K JA 1/8W
R6382	401 035 5402	MT-GLAZE 100K JA 1/8W
R6386	401 035 5402	MT-GLAZE 100K JA 1/8W
R6471	401 036 0802	MT-GLAZE 2K JA 1/8W
R6472	401 036 0802	MT-GLAZE 2K JA 1/8W
R6473	401 035 4603	MT-GLAZE 100 JA 1/8W

Ref. No.	Part No.	Description
R6474	401 035 5204	MT-GLAZE 10K JA 1/8W
R6475	401 035 4603	MT-GLAZE 100 JA 1/8W
R6476	401 035 5204	MT-GLAZE 10K JA 1/8W
R6477	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6478	401 035 5204	MT-GLAZE 10K JA 1/8W
R6481	401 035 4603	MT-GLAZE 100 JA 1/8W
R6482	401 035 4603	MT-GLAZE 100 JA 1/8W
R6483	401 035 4603	MT-GLAZE 100 JA 1/8W
R6484	401 035 4603	MT-GLAZE 100 JA 1/8W
R6485	401 035 4603	MT-GLAZE 100 JA 1/8W
R6486	401 035 4603	MT-GLAZE 100 JA 1/8W
R6487	401 035 4603	MT-GLAZE 100 JA 1/8W
R6488	401 035 4603	MT-GLAZE 100 JA 1/8W
R6489	401 035 4603	MT-GLAZE 100 JA 1/8W
R6490	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6493	401 035 5204	MT-GLAZE 10K JA 1/8W
R6494	401 035 6904	MT-GLAZE 12K JA 1/8W
R6495	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R6501	401 035 4900	MT-GLAZE 1K JA 1/8W
R6502	401 035 4900	MT-GLAZE 1K JA 1/8W
R6521	401 035 4900	MT-GLAZE 1K JA 1/8W
R6522	401 035 4900	MT-GLAZE 1K JA 1/8W
R6541	401 035 4900	MT-GLAZE 1K JA 1/8W
R6542	401 035 4900	MT-GLAZE 1K JA 1/8W
R6570	401 035 4603	MT-GLAZE 100 JA 1/8W
R6571	401 035 7901	MT-GLAZE 1.5K JA 1/8W
R6572	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R6573	401 035 9806	MT-GLAZE 18K JA 1/8W
R6574	401 035 7901	MT-GLAZE 1.5K JA 1/8W
R6575	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R6576	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R6577	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R6580	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
R6581	401 036 8303	MT-GLAZE 4.7K JA 1/8W
R6582	401 035 4603	MT-GLAZE 100 JA 1/8W
R6583	401 036 2806	MT-GLAZE 2.7K JA 1/8W
R6584	401 036 4800	MT-GLAZE 3.3K JA 1/8W
L261	401 087 6204	CARBON 0.000 ZA 1/6W
L262	401 087 6204	CARBON 0.000 ZA 1/6W
L351	401 087 6204	CARBON 0.000 ZA 1/6W
L371	401 087 6204	CARBON 0.000 ZA 1/6W
L404	401 087 6204	CARBON 0.000 ZA 1/6W
L561	401 087 6204	CARBON 0.000 ZA 1/6W
L571	401 087 6204	CARBON 0.000 ZA 1/6W
L6304	401 087 6204	CARBON 0.000 ZA 1/6W
L6311	401 087 6204	CARBON 0.000 ZA 1/6W
L6362	401 035 4108	MT-GLAZE 0.000 ZA 1/8W
VARIABLE RESISTER		
VR201	610 232 7342	VR, SEMI, 50K S
VR202	610 238 3744	VR, SEMI, 30K S
VR221	610 232 7342	VR, SEMI, 50K S
VR241	610 232 7342	VR, SEMI, 50K S
VR242	610 238 3744	VR, SEMI, 30K S
VR261	610 238 3744	VR, SEMI, 30K S
VR262	610 232 7342	VR, SEMI, 50K S
VR263	610 238 3744	VR, SEMI, 30K S
VR264	610 232 7175	VR, SEMI, 2K S
VR266	610 232 7342	VR, SEMI, 50K S
VR502	610 232 7175	VR, SEMI, 2K S
VR511	610 232 7342	VR, SEMI, 50K S
VR522	610 232 7175	VR, SEMI, 2K S
VR531	610 232 7342	VR, SEMI, 50K S
VR542	610 232 7175	VR, SEMI, 2K S
VR551	610 232 7342	VR, SEMI, 50K S
VR6202	610 232 7311	VR, SEMI, 5K S
VR6301	610 232 7199	VR, SEMI, 10K S
VR6302	610 232 7199	VR, SEMI, 10K S
VR6341	610 232 7199	VR, SEMI, 10K S
VR6570	610 232 7199	VR, SEMI, 10K S
VR6601	610 232 7311	VR, SEMI, 5K S
TRANSFORMER		
T401	645 002 3699	TRANS, OSC, 18.8MHZ
T402	610 231 2751	S TRANS
T403	610 231 2751	S TRANS
COIL		
L301	610 221 7353	DELAY LINE
L302	610 224 3864	DELAY LINE
L401	610 246 1886	BEAD CORE
L402	610 246 1886	BEAD CORE
L411	645 001 8565	CORE, PIPE
L413	645 001 8565	CORE, PIPE
L415	645 002 1787	CORE, PIPE
L417	645 001 8565	CORE, PIPE
L511	610 029 5780	INDUCTOR, 47U J
L531	610 029 5780	INDUCTOR, 47U J
L551	610 029 5780	INDUCTOR, 47U J
L6301	610 215 1374	LC BLOCK
L6308	610 029 5681	INDUCTOR, 18U J
L6312	610 215 1374	LC BLOCK
L6313	610 215 1374	LC BLOCK
L6315	610 215 1374	LC BLOCK
L6361	610 217 7459	INDUCTOR, 270U J
L6371	610 217 7459	INDUCTOR, 270U J
R6402	645 001 8466	INDUCTOR, 70 OHM
R6403	645 001 8466	INDUCTOR, 70 OHM
R6404	645 001 8466	INDUCTOR, 70 OHM
DIODE		
D201	407 004 8009	DIODE DSB015-TA
D221	407 004 8009	DIODE DSB015-TA
D241	407 004 8009	DIODE DSB015-TA
D261	407 004 8009	DIODE DSB015-TA
D262	407 004 8009	DIODE DSB015-TA
D291	407 071 8407	ZENER DIODE DZ08.2X-TA
D405	407 091 2102	VARACTOR DI SVC201SPA
D406	407 091 2102	VARACTOR DI SVC201SPA
D407	407 004 8009	DIODE DSB015-TA
D501	407 048 9901	ZENER DIODE EQA02-25A
D502	407 004 8009	DIODE DSB015-TA
D503	407 005 9807	DIODE ERA81-004
D521	407 048 9901	ZENER DIODE EQA02-25A
D522	407 004 8009	DIODE DSB015-TA
D523	407 005 9807	DIODE ERA81-004
D541	407 048 9901	ZENER DIODE EQA02-25A
D542	407 004 8009	DIODE DSB015-TA
D543	407 005 9807	DIODE ERA81-004
D571	407 004 8009	DIODE DSB015-TA
D572	407 004 8009	DIODE DSB015-TA
D573	407 004 8009	DIODE DSB015-TA
D6472	407 004 8009	DIODE DSB015-TA
D6473	407 144 8600	LED TLY144
D6473-6A	610 232 5485	SHIELD LIGHT
D6473A	610 229 8888	LED HOLDER-S2AS
D6474	407 042 7309	LED TLR144
D6474A	610 229 8888	LED HOLDER-S2AS
D6475	407 042 5404	LED TLG144
D6475A	610 229 8888	LED HOLDER-S2AS
D6476	407 042 7309	LED TLR144
D6476A	610 229 8888	LED HOLDER-S2AS
D6570	407 071 6403	ZENER DIODE DZ05.1X-TA
MISCELLANEUS		
IC402A	645 001 8305	FERRITE CORE
SW6401	610 239 4160	SWITCH, PUSH
SW6402	610 232 5782	PUSH SWITCH
SW6471	645 001 9876	SWITCH, PUSH 1P-1TX1
SW6472	610 011 2667	SWITCH, PUSH

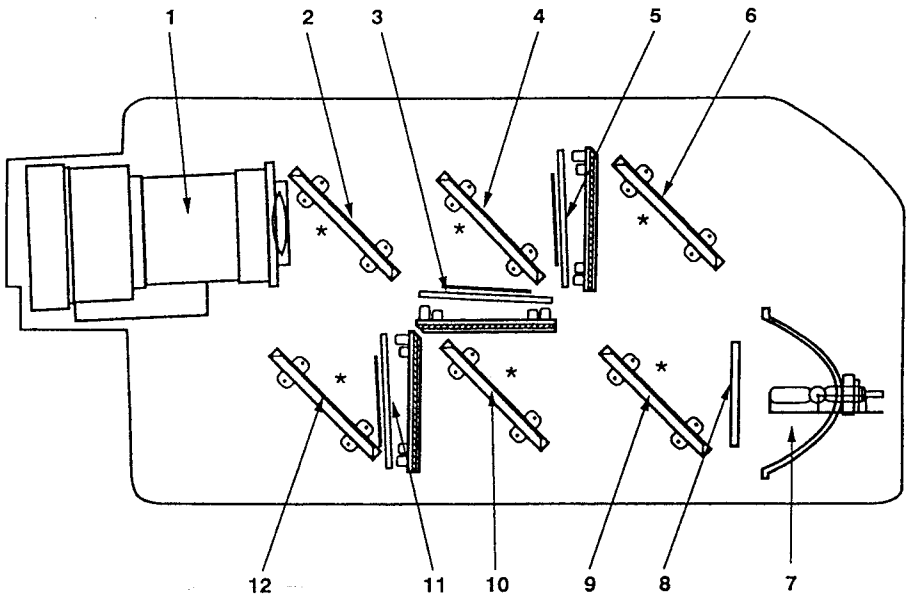
Ref. No.	Part No.	Description
	610 239 4528 LED PCB ASSY E5SA UE2576X2	
	RESESTER	
R1901	401 036 0802	MT-GLAZE 2K JA 1/8W
R1902	401 036 0802	MT-GLAZE 2K JA 1/8W
R1903	401 036 0802	MT-GLAZE 2K JA 1/8W
R1904	401 036 0802	MT-GLAZE 2K JA 1/8W
R1905	401 036 0802	MT-GLAZE 2K JA 1/8W
R1906	401 036 0802	MT-GLAZE 2K JA 1/8W
R1907	401 036 0802	MT-GLAZE 2K JA 1/8W
R1908	401 036 0802	MT-GLAZE 2K JA 1/8W
R1909	401 036 0802	MT-GLAZE 2K JA 1/8W
R1910	401 036 0802	MT-GLAZE 2K JA 1/8W
R1911	401 036 0802	MT-GLAZE 2K JA 1/8W
R1921	401 036 0802	MT-GLAZE 2K JA 1/8W
R1922	401 036 0802	MT-GLAZE 2K JA 1/8W
R1923	401 036 0802	MT-GLAZE 2K JA 1/8W
R1924	401 036 0802	MT-GLAZE 2K JA 1/8W
R1925	401 036 0802	MT-GLAZE 2K JA 1/8W
R1926	401 036 0802	MT-GLAZE 2K JA 1/8W
R1927	401 036 0802	MT-GLAZE 2K JA 1/8W
R1928	401 036 0802	MT-GLAZE 2K JA 1/8W
R1929	401 036 0802	MT-GLAZE 2K JA 1/8W
R1930	401 036 0802	MT-GLAZE 2K JA 1/8W
R1931	401 036 0802	MT-GLAZE 2K JA 1/8W
	DIODE	
D1901	407 144 8501	LED SLM-1251MW T87
D1902	407 144 8501	LED SLM-1251MW T87
D1903	407 144 8501	LED SLM-1251MW T87
D1904	407 144 8501	LED SLM-1251MW T87
D1905	407 144 8501	LED SLM-1251MW T87
D1906	407 144 8501	LED SLM-1251MW T87
D1907	407 144 8501	LED SLM-1251MW T87
D1908	407 144 8501	LED SLM-1251MW T87
D1909	407 144 8501	LED SLM-1251MW T87
D1910	407 144 8501	LED SLM-1251MW T87
D1911	407 144 8501	LED SLM-1251MW T87
	610 253 6706 ASSY, PWB, POWER P4AA-A 1AA0B10C0220A	
	TRANSISTER	
Q601	406 000 6804	TR 2SA1015-GR(SAN)
	405 001 7407	TR 2SA1015-O(SAN)
	405 001 7605	TR 2SA1015-Y(SAN)
	405 004 3109	TR 2SA564A-Q(CU)
	405 004 3208	TR 2SA564A-R(CU)
	405 004 4205	TR 2SA608-E-CTV-NP
	405 004 4809	TR 2SA608-F-CTV-NP
	405 006 1103	TR 2SA933-Q
	405 006 1202	TR 2SA933-R
Q602	405 016 9700	TR 2SC3070-CTV
Q603	405 118 6904	TR 2SC3752L-RA7
	405 118 7000	TR 2SC3752M-RA7
Q604	405 059 9903	TR 2SD1913-R-RA
Q606	405 064 7307	TR 2SB1274-Q-RA
	405 064 7406	TR 2SB1274-R-RA
Q607	405 011 7305	TR 2SC1740-Q
	405 011 7404	TR 2SC1740-R
	405 011 7503	TR 2SC1740-S
	405 012 2002	TR 2SC1815-GR
	405 012 2309	TR 2SC1815-Y
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
	405 020 7501	TR 2SC945A-PA
	405 020 7709	TR 2SC945A-QA
Q608	405 011 7305	TR 2SC1740-Q

Ref. No.	Part No.	Description
	405 011 7404	TR 2SC1740-R
	405 011 7503	TR 2SC1740-S
	405 012 2002	TR 2SC1815-GR
	405 012 2309	TR 2SC1815-Y
	405 019 2708	TR 2SC536-F-NP
	405 019 3804	TR 2SC536-G-NP
	405 020 7501	TR 2SC945A-PA
	405 020 7709	TR 2SC945A-QA
	INTEGRATED CIRCUIT	
IC601	409 170 5301	IC SI-3050C
IC602	409 180 2307	IC UPC1093J
	CAPACITOR	
C606	403 076 7100	CERAMIC 1000P M 1K
C607	403 076 7100	CERAMIC 1000P M 1K
C608	403 076 7100	CERAMIC 1000P M 1K
C609	403 076 7100	CERAMIC 1000P M 1K
C612	404 050 9608	ELECT 82U M 400V
C613	403 165 7004	CERAMIC 470P K 3K
	403 232 3205	CERAMIC 470P K 3K
C614	403 058 9306	POLYESTER 0.018U J 50V
	403 058 9702	POLYESTER 0.018U J 50V
C616	403 056 9704	POLYESTER 0.01U J 50V
	403 057 0205	POLYESTER 0.01U J 50V
⚠C617	404 066 8305	CERAMIC 3300P M 400V
	404 067 0100	CERAMIC 3300P M 400V
	404 067 0209	CERAMIC 3300P M 400V
C618	404 066 8305	CERAMIC 3300P M 400V
	404 067 0100	CERAMIC 3300P M 400V
	404 067 0209	CERAMIC 3300P M 400V
C621	403 052 8503	ELECT 1000U M 35V
C622	403 042 2405	ELECT 100U M 16V
C623	403 218 3106	ELECT 1000U M 16V
C624	403 134 5604	ELECT 4700U M 16V
C626	403 135 8703	ELECT 2200U M 35V
C627	403 053 6904	ELECT 330U M 35V
C628	403 046 8007	ELECT 3300U M 25V
C629	403 134 9305	ELECT 2200U M 16V
C631	403 067 5603	MT-COMPO 0.1U J 50V
C632	403 135 0004	ELECT 2200U M 25V
C634	403 067 5603	MT-COMPO 0.1U J 50V
C636	403 039 9004	ELECT 1000U M 10V
C637	403 134 5604	ELECT 4700U M 16V
	RESISTER	
R604	401 080 2005	WIRE WOUND 3.3 KB 2W
R607	401 007 5805	CARBON 120K JA 1/2W
R608	401 007 5805	CARBON 120K JA 1/2W
R609	401 065 2808	OXIDE-MT 120 JA 2W
R610	401 059 2807	OXIDE-MT 150 JA 1W
R611	401 024 7400	CARBON 10K JA 1/6W
R612	401 025 8208	CARBON 22K JA 1/6W
R613	401 026 0607	CARBON 270 JA 1/6W
R614	401 025 7706	CARBON 2.2K GA 1/6W
R615	401 099 1402	CARBON 330 GA 1/6W
R616	401 024 7400	CARBON 10K JA 1/6W
R617	401 024 7004	CARBON 1K JA 1/6W
R621	401 010 3201	CARBON 470 JB 1/2W
R622	401 066 9103	OXIDE-MT 27 JA 2W
R623	401 026 1000	CARBON 2.7K JA 1/6W
R624	401 061 0006	OXIDE-MT 3.3 JA 1W
R625	401 024 7004	CARBON 1K JA 1/6W
R626	401 024 7004	CARBON 1K JA 1/6W
R627	401 026 9907	CARBON 4.7K JA 1/6W
R628	401 024 7400	CARBON 10K JA 1/6W
R629	401 024 7400	CARBON 10K JA 1/6W
R630	401 025 7805	CARBON 2.2K JA 1/6W
R631	401 024 7004	CARBON 1K JA 1/6W
R632	401 026 0607	CARBON 270 JA 1/6W

Ref. No.	Part No.	Description
R636	401 024 7400	CARBON 10K JA 1/6W
R637	401 024 7400	CARBON 10K JA 1/6W
R638	401 025 8208	CARBON 22K JA 1/6W
	VARIABLE RESISTER	
VR601	610 234 7258	VR B-1K
	TRANSFORMER	
T601	610 229 4040	CONVERTER TRANS
	COIL	
⚠L603	610 031 5969	LINE FILTER
	610 031 5976	LINE FILTER
L611	610 031 1336	INDUCTOR 120UHK
L612	610 031 1381	INDUCTOR 1500UHJ
	DIODE	
D605	407 003 5504	DIODE DBA10C
D606	407 013 1008	DIODE 1S1553
	407 013 4306	DIODE 1S2076A
	407 013 6508	DIODE 1S2471
D607	407 007 6606	DIODE ES1
D608	407 013 1008	DIODE 1S1553
	407 013 4306	DIODE 1S2076A
	407 013 6508	DIODE 1S2471
D610	407 005 4505	DIODE DS442X
	407 013 1206	DIODE 1S1555
	407 013 4207	DIODE 1S2076
	407 013 7109	DIODE 1S2473
D611	407 163 8001	ZENER DIODE UZ-13BCC
D613	407 103 1604	DIODE RU4YX LF-J3
D614	407 007 7306	DIODE EU01Z
D616	407 118 2306	DIODE FML-12S LF-F
	407 154 2704	DIODE YG901C2-LB
	407 112 6607	DIODE 5DL2CZ41A-LB
D617	407 103 1604	DIODE RU4YX LF-J3
D619	407 005 8602	DIODE ERA15-02
D621	407 005 4505	DIODE DS442X
	407 013 1206	DIODE 1S1555
	407 013 4207	DIODE 1S2076
	407 013 7109	DIODE 1S2473
D622	407 005 4505	DIODE DS442X
	407 013 1206	DIODE 1S1555
	407 013 4207	DIODE 1S2076
	407 013 7109	DIODE 1S2473
D623	407 005 8602	DIODE ERA15-02
D624	407 005 4505	DIODE DS442X
	407 013 1206	DIODE 1S1555
	407 013 4207	DIODE 1S2076
	407 013 7109	DIODE 1S2473
D636	407 006 6300	DIODE ERC05-10B
D637	407 006 6300	DIODE ERC05-10B
D638	407 006 6300	DIODE ERC05-10B
D639	407 006 6300	DIODE ERC05-10B
D640	407 005 8602	DIODE ERA15-02
D641	407 013 1008	DIODE 1S1553
	407 013 4306	DIODE 1S2076A
	407 013 6508	DIODE 1S2471
D642	407 013 1008	DIODE 1S1553
	407 013 4306	DIODE 1S2076A
	407 013 6508	DIODE 1S2471
D643	407 013 1008	DIODE 1S1553
	407 013 4306	DIODE 1S2076A
	407 013 6508	DIODE 1S2471
	MISCELLANEUS	
⚠RL601	645 000 4155	RELAY
	610 009 5540	RELAY
A1900C	610 253 6720	ASSY, PWB, RC AMP P4AA-C
A1900D	610 253 6737	ASSY, PWB, RC AMP P4AA-D

Ref. No.	Part No.	Description
A1901	610 048 4603	RC PREAMP 411-1E
A1902	610 048 4603	RC PREAMP 411-1E
⚠PC601	408 016 8803	PC PC113 (VIDE0884)
	610 253 6713 ASSY PWB POWER P4AA-B 1AA0B10C0220B	
	CAPACITOR	
⚠C601	404 054 6603	MT-POLYEST 0.47U M 250V
⚠C602	404 054 6603	MT-POLYEST 0.47U M 250V
⚠C603	404 008 2606	CERAMIC 1000P M 400V
	404 008 4303	CERAMIC 1000P M 400V
⚠C604	404 008 2606	CERAMIC 1000P M 400V
	404 008 4303	CERAMIC 1000P M 400V
⚠C610	404 008 2606	CERAMIC 1000P M 400V
	404 008 4303	CERAMIC 1000P M 400V
⚠C611	404 008 2606	CERAMIC 1000P M 400V
	404 008 4303	CERAMIC 1000P M 400V
	RESISTER	
⚠R602	402 000 8305	SOLID 5.6M KA 1/2W
⚠R603	402 000 8305	SOLID 5.6M KA 1/2W
	COIL	
⚠L601	610 031 6317	LINE FILTER
⚠L602	610 229 8932	LINE FILTER
	610 240 9123	LINE FILTER
	MISCELLANEUS	
⚠VA601	407 130 2902	VARISTOR ENC471D-14A
⚠F601	423 022 2102	FUSE 250V 4A
⚠SW601	610 218 9162	PUSH SWITCH
	OUT OF PCB ASS'Y	
	COIL	
L901	610 236 5504	PIPE CORE
	645 001 8558	CORE
L902	645 006 8423	INDUCTOR, 40M
	MISCELLANEUS	
⚠LP901	610 254 5593	LAMP, METAL HALIDE
EL901	610 254 5647	LCD PANEL (RED)
EL902	610 254 5654	LCD PANEL (GREEN)
EL903	610 254 5661	LCD PANEL (BLUE)
FN901	645 002 4504	MOTOR, FAN DC 4.92W
FN902	645 002 4498	MOTOR, FAN DC 2W
K6AAS	610 239 1312	AC SOCKET
SP901	610 055 5471	SPEAKER
	610 055 5464	SPEAKER
SW904	610 220 0010	SWITCH, REED
	610 229 8505	SWITCH, REED
SW905	610 235 5819	SWITCH, REED
	610 233 0632	SWITCH, REED
⚠T901	610 240 1288	POWER TRANS
W911	610 234 6305	FPC CABLE(K2R-RLCD)
	610 237 2311	FPC CABLE(K2R-RLCD)
W912	610 234 6312	FPC CABLE(K2G-GLCD)
	610 237 2304	FPC CABLE(K2G-GLCD)
W913	610 234 6305	FPC CABLE(K2B-BLCD)
	610 237 2311	FPC CABLE(K2B-BLCD)
	ACCESSORIES	
⚠W901	610 239 1374	AC POWER CORD(MODEL PLC-220P)
	645 000 1642	AC POWER CORD(MODEL PLC-220PB)
	645 000 4520	AC POWER CORD(MODEL PLC-220PB)
	645 002 7765	AC POWER CORD(MODEL PLC-220PP)
	645 002 6812	AC POWER CORD(MODEL PLC-220PP)

OPTICAL PARTS



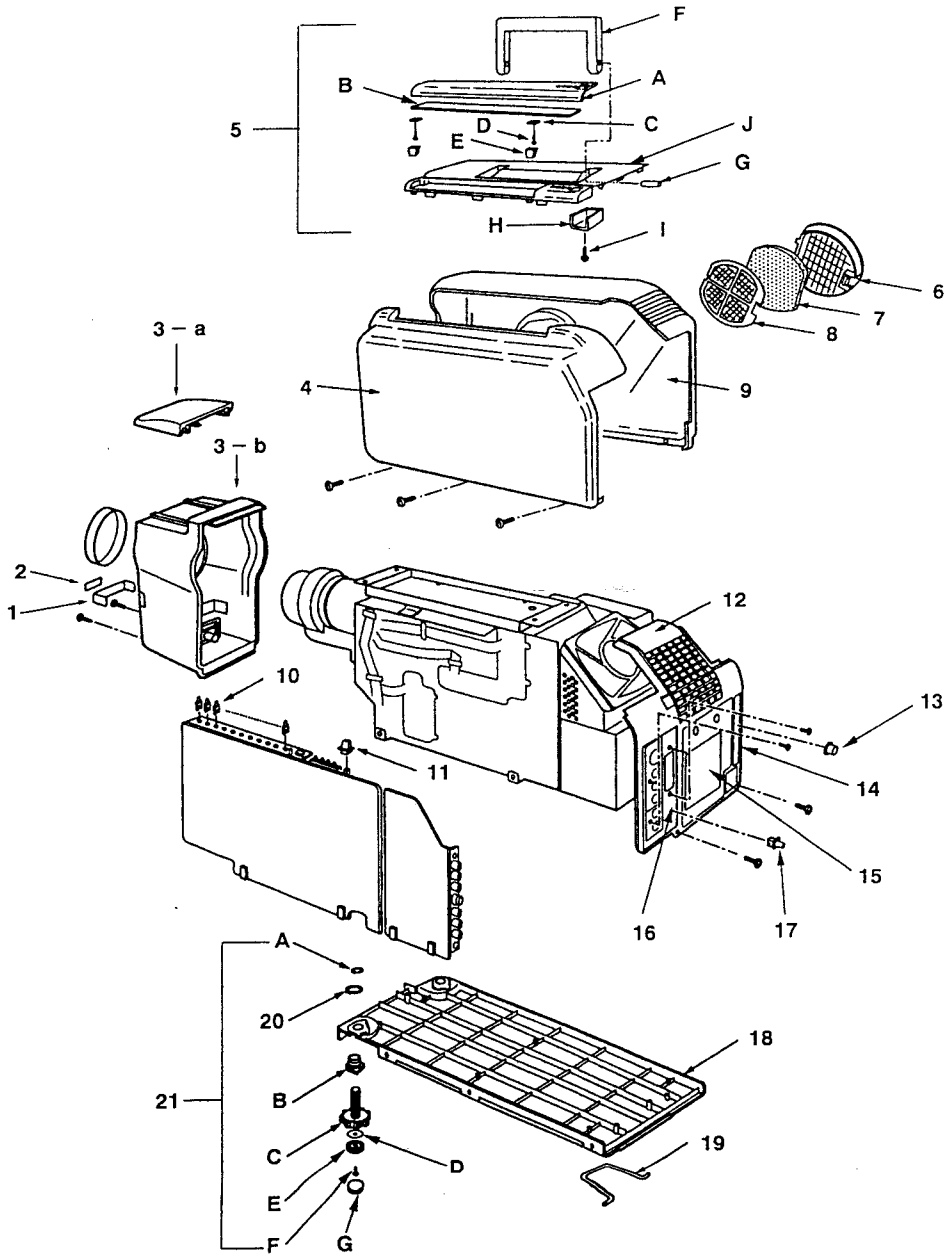
Caution;
* ..... Coating face of the mirror.

OPTICAL PARTS LIST

KEY NO.	PART NO.	DESCRIPTION
1.	610 232 5454	LENS ASS'Y (Printed ZOOM LENS of Lens Front))
	610 238 4017	LENS COVER (TOP)
	610 238 4024	LENS COVER (BOTTOM)
	610 238 4062	FOCUS MOTOR
	610 238 4079	ZOOM MOTOR
	610 237 8924	LENS CAP
2.	610 233 0472	MIRROR (DICHROIC-B)
3.	———	GREEN LCD PANEL ASS'Y (SEE LCD PANEL PARTS LIST)
4.	610 233 0465	MIRROR (DICHROIC-G2)
5.	———	BLUE LCD PANEL ASS'Y (SEE LCD PANEL PARTS LIST)
6.	610 233 4296	MIRROR (FOR RED)
7.	———	LAMP ASS'Y (LP901A) (SEE ELECTRICAL PARTS LIST)
8.	645 000 9242	(UV CUT FILTER)
9.	654 002 8656	MIRROR (DICHROIC-R)
10.	610 233 0458	MIRROR (DICHROIC-G1)
11.	———	RED LCD PANEL ASS'Y (SEE LCD PANEL PARTS LIST)
12.	610 233 4289	MIRROR (FOR BLUE)

PART NO.	DESCRIPTION
645 000 1628	LENS ASS'Y (Non Print of Lens Front)
610 247 9454	LENS COVER (RIGHT)
610 247 9461	LENS COVER (LEFT)
610 247 9492	FOCUS MOTOR
610 247 9508	ZOOM MOTOR
610 250 1223	LENS CAP

CABINET PARTS LIST



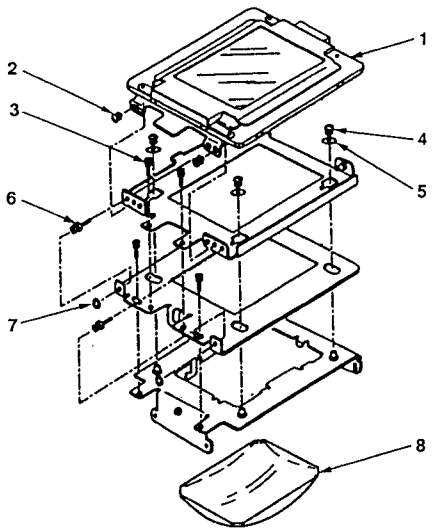
CABINET PARTS LIST

KEY NO.	PART NO.	DESCRIPTION
1.	610 246 4955	TRANSPARENT BOARD
2.	610 223 9751	BRAND BADGE
3 - a.	610 253 7628	FRONT CABINET COVER
3 - b.	610 253 7604	FRONT CABINET
	412 027 4108	SCREW 4 X 8MM (2 USED)
4.	610 254 1816	SIDE CABINET (RIGHT)
	411 077 1508	SCREW 4 X 12MM (3 USED)
5.	610 254 1809	TOP CABINET ASS'Y (INCLUDED A-J)
A.	610 254 1830	DOOR
B.	610 239 8588	DOOR DECORATION PLATE
C.	610 232 9124	MAGNET CATCHER (2 USED)
D.	411 112 6604	SCREW 2 X 4MM (2 USED)
E.	610 208 0544	MAGNET HOLDER (2 USED)
F.	610 252 0767	HANDLE
G.	411 148 5701	FIXED PIN (2 USED)
H.	610 232 8806	HANDLE MOUNTING PARTS (2 USED)
I.	411 077 1102	SCREW 4 X 10MM (2 USED)
J.	610 255 5363	TOP CABINET
6.	610 252 0842	AIR FILTER COVER
7.	610 232 9704	SPONGE
8.	610 236 5306	AIR FILTER
9.	610 252 0811	SIDE CABINET (LEFT)
	411 077 1508	SCREW 4 X 12MM (3 USED)
10.	610 239 3286	BUTTON (10 USED)
11.	610 232 3429	POWER BUTTON
12.	610 254 2134	REAR CABINET
	411 027 4108	SCREW 4 X 8MM (2 USED)
	411 026 2907	SCREW 3 X 12MM (4 USED)
13.	610 099 3952	MAINS ON/OFF BUTTON
14.	610 240 1189	REAR DECORATION PLATE (RIGHT)
15.	610 252 0781	LAMP COVER
	411 077 1102	SCREW 4 X 10MM (2 USED)
16.	610 239 8632	REAR DECORATION PLATE (LEFT)
17.	610 232 3436	INT. SP ON/OFF BUTTON
18.	610 232 2002	BOTTOM CABINET
	411 077 1102	SCREW 4 X 10MM (4 USED)
19.	610 236 0264	REAR STAND
	610 237 2267	SPRING
20.	411 165 5401	LEG. STOPPER (2 USED)
21.	610 240 5590	LEG. ASSEMBLY (2 USED) INCLUDED A and C-G
A.	411 149 4406	STOPPER
B.	412 045 2206	SPECIAL NUT
C.	610 239 9974	LEG.-A
D.	411 152 6701	WASHER-A
E.	610 239 9981	LEG.-B
F.	411 156 6806	SCREW 3 × 10MM
G.	610 240 0021	CUSHION

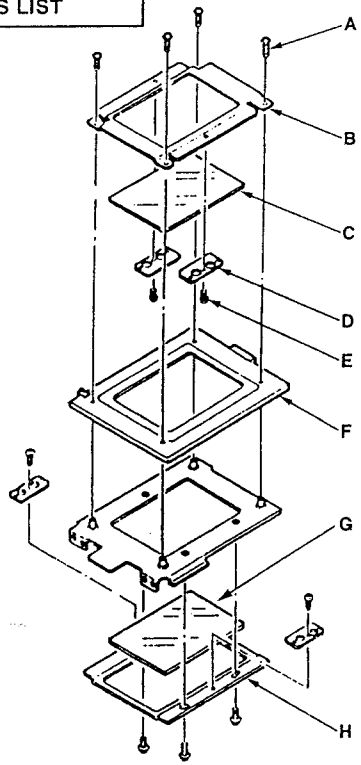
ACCESSORIES PARTS LIST

KEY NO.	PART NO.	DESCRIPTION
	610 253 6614	OWNER'S MANUAL (MODEL PLC-220P)
	610 253 6621	OWNER'S MANUAL (MODEL PLC-220PB/PP)
	610 233 0489	DUST COVER
	610 239 7123	RC TRANSMITTER ASS'Y
	610 233 5026	RC BATTERY COVER
	610 234 0969	RC CABLE

RED PANEL



LCD PANEL ASS'Y BREAK DOWN PARTS LIST



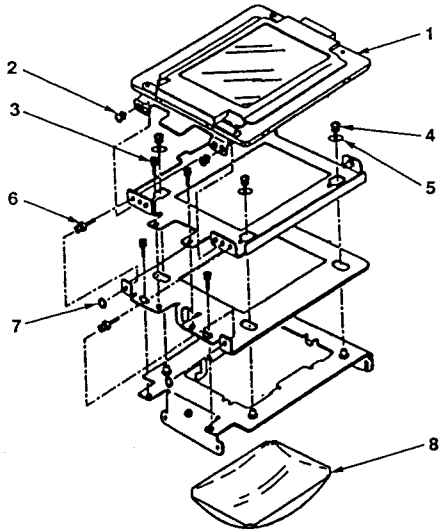
LCD PANEL PARTS LIST

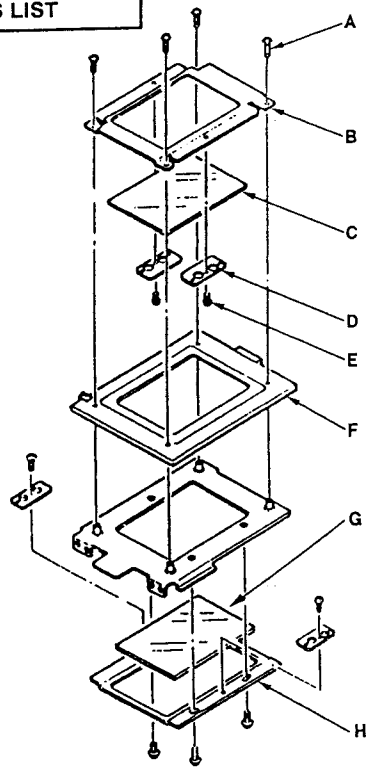
RED LCD PANEL

KEY NO.	PART NO.	DESCRIPTION
1.	———	RED LCD PANEL ASS'Y
A.	412 043 7609	SCREW 2 X 4 (7 USED)
B.	610 232 2231	RETAINER POLARIZED GLASS-A
C.	610 233 4272	POLARIZED GLASS
D.	610 232 2248	RETAINER POLARIZED GLASS-B (4 USED)
E.	411 102 4108	SCREW 3.2 X 2.5 (4 USED)
F.	610 254 5647	RED LCD PANEL
G.	645 004 8784	POLARIZED GLASS
H.	610 232 5942	RETAINER POLARIZED GLASS-C
2.	411 045 6009	SCREW, 3 X 6MM (2 USED)
3.	411 155 9600	SPECIAL SCREW (4 USED)
4.	412 043 7609	SPECIAL SCREW (4 USED)
5.	411 148 7804	WASHER (4 USED)
6.	412 037 7202	SPECIAL SCREW (2 USED)
7.	411 016 0500	RING-E (2 USED)
8.	610 232 5461	CONDENSER LENS

BLUE PANEL

LCD PANEL ASS'Y BREAK DOWN PARTS LIST





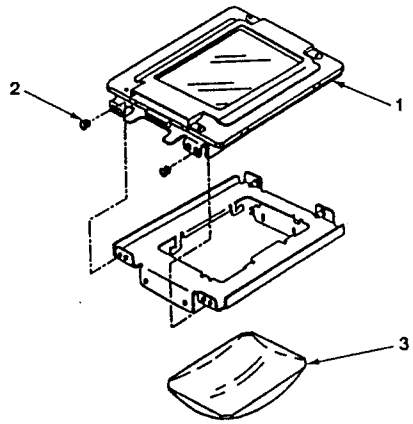
LCD PANEL PARTS LIST

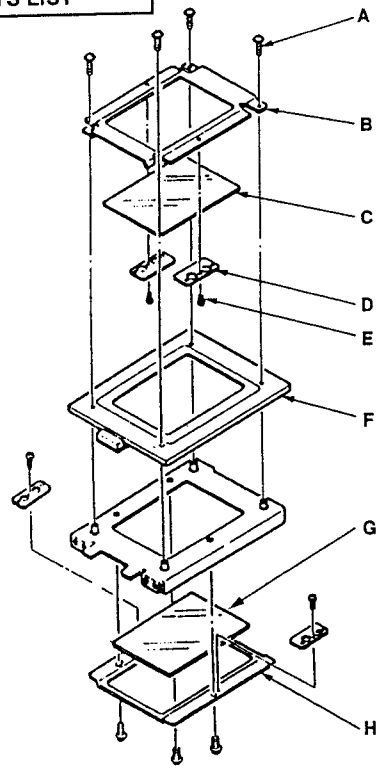
BLUE LCD PANEL

KEY NO.	PART NO.	DESCRIPTION
1.	———	BLUE LCD PANEL ASS'Y
A.	412 043 7609	SCREW 2 X 4 (7 USED)
B.	610 232 2231	RETAINER POLARIZED GLASS-A
C.	610 233 4272	POLARIZED GLASS
D.	610 232 2248	RETAINER POLARIZED GLASS-B (4 USED)
E.	411 102 4108	SCREW 3.2 X 2.5 (4 USED)
F.	610 254 5661	BLUE LCD PANEL
G	645 004 8784	POLARIZED GLASS
H.	610 232 5942	RETAINER POLARIZED GLASS-C
2.	411 045 6009	SCREW, 3 X 6MM (2 USED)
3.	411 155 9600	SPECIAL SCREW (4 USED)
4.	412 043 7609	SPECIAL SCREW (4 USED)
5.	411 148 7804	WASHER (4 USED)
6.	412 037 7202	SPECIAL SCREW (2 USED)
7.	411 016 0500	RING-E (2 USED)
8.	610 232 5461	CONDENSER LENS

GREEN PANEL

LCD PANEL ASS'Y BREAK DOWN PARTS LIST





LCD PANEL PARTS LIST

GREEN LCD PANEL

KEY NO.	PART NO.	DESCRIPTION
1.	———	GREEN LCD PANEL ASS'Y
A.	412 043 7609	SCREW 2 X 4 (7 USED)
B.	610 232 2231	RETAINER POLARIZED GLASS-A
C.	610 233 4272	POLARIZED GLASS
D.	610 232 2248	RETAINER POLARIZED GLASS-B (4 USED)
E.	411 102 4108	SCREW 3.2 X 2.5 (4 USED)
F.	610 254 5654	GREEN LCD PANEL
G.	645 004 8784	POLARIZED GLASS
H.	610 232 5942	RETAINER POLARIZED GLASS-C
2.	411 045 6009	SCREW, 3 X 6MM (2 USED)
3.	610 232 5461	CONDENSER LENS

VOLTAGE AND WAVEFORMS

1. TRANSISTORS VOLTAGE CHART

	E(V)	C(V)	B(V)		E(V)	C(V)	B(V)		E(V)	C(V)	B(V)
Q0P1	4.9	11.5	5.5	Q153	2.4	11.5	2.9	Q381	0	0	0.7
Q041	6.2	11.5	6.8	Q171	2.4	11.6	2.7	Q382	0	3.1	0
Q042	6.2	11.5	6.8	Q172	2.4	11.6	2.7	Q401	1.9	0	1.2
Q061	0	0	10.6	Q173	2.4	11.6	2.7	Q402	4.2	4.9	4.8
Q062	0	11.5	0	Q174	2.4	11.6	2.6	Q403	0	0	0.7
Q063	1.5	11.5	0	Q175	2.4	11.6	2.6	Q404	4.1	4.9	4.7
Q069	5.0	11.5	0	Q176	2.4	11.6	2.6	Q502	− 16.4	− 8.4	− 15.8
Q1A1	3.6	11.6	4.2	Q177	2.6	11.6	3.2	Q511	8.1	0	7.5
Q1F1	6.8	11.6	7.4	Q179	3.2	0	2.6	Q512	6.9	15.0	7.5
Q1F2	0	0	6.8	Q181	0.6	0	0	Q513	7.2	1.1	8.1
Q1F3	0	4.4	0	Q182	0.1	11.5	0.6	Q514	7.5	0.2	0
Q1F4	0	0	0.1	Q183	0	5.2	0	Q522	0	− 8.4	− 15.8
Q1F5	8.4	8.3	7.8	Q184	0	0	4.8	Q531	7.7	0	7.1
Q1H1	− 1.2	11.6	− 0.7	Q202	8.1	0	7.5	Q532	6.5	15.0	7.1
Q1H2	− 1.8	5.8	− 1.2	Q203	6.8	15.0	7.4	Q533	7.1	14.8	0.7
Q1H3	5.3	6.2	5.8	Q204	7.5	14.8	8.1	Q534	7.1	0.2	6.5
Q1H4	4.6	11.6	5.3	Q205	7.4	0.2	6.8	Q542	0	− 8.3	− 15.8
Q1H5	4.0	11.6	4.6	Q222	8.0	0	7.4	Q551	7.8	0	7.2
Q1H6	− 1.1	11.6	− 0.5	Q223	6.8	15.0	7.4	Q552	6.6	15.0	7.2
Q1H7	− 1.1	11.6	− 0.5	Q224	7.4	14.8	8.0	Q553	7.2	14.8	7.8
Q1H8	3.4	6.5	4.0	Q225	7.4	0.2	6.8	Q554	7.2	0.2	6.6
Q1H9	5.9	11.6	6.5	Q242	8.1	0	7.4	Q571	0	0	− 0.4
Q1J1	3.4	6.5	4.0	Q243	6.8	15.0	7.4	Q601	0.3	− 1.9	13.3
Q1J2	5.9	11.6	6.5	Q244	7.5	14.8	8.1	Q602	0	− 1.4	− 1.9
Q1J3	3.4	11.6	4.0	Q245	7.4	0.2	6.8	Q603	0	309	− 1.4
Q131	0	11.5	0	Q291	− 7.5	− 17.0	0	Q604	10.8	19.8	11.4
Q132	0	11.5	0	Q292	0	4.9	0	Q606	10.8	− 1.0	10.8
Q151	11.3	1.3	11.0	Q305	3.8	9.1	2.0	Q607	0	10.8	0
Q152	2.2	11.0	2.9	Q306	2.6	0	1.8	Q801	0	0	4.8

	E(V)	C(V)	B(V)		E(V)	C(V)	B(V)		E(V)	C(V)	B(V)
Q802	0	0	4.8	Q1109	5.9	11.5	6.5				
Q803	0	11.1	0.2	Q1110	0	0	4.8				
Q804	0	0	4.8	Q1111	0	0.1	0.7				
Q805	0	0	4.8	Q6303	2.7	11.6	0.1				
Q806	0	0	4.4	Q6304	0.8	11.6	1.4				
Q821	4.9	10.3	5.5	Q6305	0.8	2.9	1.4				
Q829	0	8.7	0	Q6306	2.3	11.6	2.9				
Q831	0	0	8.7	Q6307	1.7	11.6	2.3				
Q842	0.1	0.2	0.8	Q6313	0	11.6	2.8				
Q843	0.8	0.8	1.5	Q6314	0.8	11.6	1.4				
Q844	0	0.1	0.8	Q6323	0	11.6	3.4				
Q847	0	10.6	0	Q6324	0.8	11.6	1.4				
Q848	0	9.4	0	Q6331	2.3	9.1	3.0				
Q861	0	3.1	0	Q6332	2.3	9.1	3.0				
Q871	0	3.9	0.1	Q6333	3.3	9.1	1.0				
Q872	0	4.8	0	Q6334	3.3	9.1	3.3				
Q1000	5.4	11.5	6.0	Q6335	3.3	0	3.3				
Q1001	5.4	11.5	6.0	Q6336	3.3	0	3.3				
Q1002	0	0.1	0.7	Q6337	3.9	0	3.9				
Q1003	1.2	5.7	1.8	Q6362	3.4	11.6	3.9				
Q1100	2.3	11.5	2.9	Q6364	3.4	11.6	3.9				
Q1101	5.9	11.5	6.5	Q6471	8.1	0	8.0				
Q1102	0.3	11.5	0	Q6570	2.3	0	0				
Q1103	11.5	0	11.5	Q6571	9.8	7.4	9.2				
Q1104	0	11.4	0.1	Q6572	7.4	5.4	0.1				
Q1105	3.0	11.5	3.6	Q6573	7.4	0	8.6				
Q1106	0	0	0.2	Q6574	8.6	0	8.0				
Q1107	3.0	11.5	3.6	Q6575	1.2	11.6	5.4				
Q1108	0	0	0.2	Q6576	8.2	0	8.0				

2. IC VOLTAGE CHART

Pin	V	Pin	V	Pin	V	Pin	V
IC001		9	11.7	IC1A1		10	5.1
1	− 2.8	10	0	1	0.8	11	5.1
2	0	11	11.7	2	1.0	12	4.0
3	0	12	0	3	4.1	13	1.5
4	0	13	5.7	4	7.7	14	0
5	4.8	14	5.7	5	3.7	15	1.5
6	0	15	5.7	6	6.7	16	5.1
IC041		16	11.7	7	4.9	IC1L1	
1	0	IC052		8	2.8	GROUND	0
2	0	1	3.0	9	0	IN	− 14.2
3	0	2	0	10	11.7	OUT	− 7.9
4	11.7	3	3.0	11	2.2		
5	7.7	4	4.7	12	0.7		
6	0	5	11.7	13	7.4		
7	7.8	IC061		14	3.2		
8	7.1	1	0	15	4.5		
9	11.7	2	0	16	9.1		
10	7.7	3	0	17	1.4		
11	7.0	4	0	18	6.3		
12	7.8	5	7.8	IC1K1			
IC051		6	0	1	0		
1	0	7	7.7	2	2.0		
2	5.7	8	7.0	3	5.1		
3	5.7	9	11.7	4	3.3		
4	5.7	10	7.7	5	0.7		
5	5.1	11	7.0	6	0		
6	0	12	7.8	7	1.5		
7	0			8	0		
8	0			9	1.5		

Pin	V	Pin	V	Pin	V	Pin	V
IC101		IC102		IC201		29	2.5
1	7.4	1	2.7	1	0	30	2.2
2	7.7	2	5.1	2	4.8	31	− 4.9
3	7.4	3	2.7	3	0.2	32	3.4
4	4.5	4	5.4	4	4.9	33	0
5	3.9	5	2.7	5	0.2	34	− 0.8
6	8.8	6	11.5	6	3.2	35	0
7	4.0	7	4.9	7	2.8	36	0
8	4.5	8	3.2	8	0	37	− 7.5
9	0	9	9.8	9	3.2	38	− 1.0
10	2.3	10	1.5	10	0	39	0
11	2.3	11	0	11	0.2	40	− 1.1
12	7.9	12	8.2	12	3.2	41	0
13	11.5	13	8.3	13	3.2	42	0
14	5.7	14	8.2	14	0	43	0
15	3.2	15	6.9	15	0	44	0
16	7.9	16	3.5	16	1.6	45	0
17	3.0	17	7.0	17	0	46	0
18	7.7	18	7.0	18	0	47	0
19	5.0	19	2.9	19	2.8	48	− 0.6
20	5.6	20	2.7	20	0	49	4.9
21	5.5	21	4.5	21	0	50	3.3
22	4.1	22	4.3	22	0	51	3.3
23	0	23	4.5	23	2.4	52	2.5
24	1.5	24	0	24	1.8	53	2.4
25	0	25	6.7	25	0	54	2.2
26	0	26	1.2	26	0.2	55	2.4
27	10.6	27	3.0	27	1.3	56	2.2
28	0	28	0	28	1.4	57	2.9

Pin	V	Pin	V	Pin	V	Pin	V
IC201		21	0	13	0	42	4.9
58	3.3	22	0	14	0	43	2.4
59	3.2	23	2.6	15	0	44	0.8
60	3.3	24	3.1	16	0	45	1.2
61	0	25	4.5	17	0	46	4.9
62	0	26	4.0	18	0	47	0.2
63	3.0	27	3.1	19	0	48	4.6
64	0	28	9.1	20	4.8	49	2.3
IC301		IC302		21	0	50	0.3
1	0.1	1	2.4	22	0	51	1.4
2	0	2	4.5	23	0	52	0
3	0.1	3	4.1	24	0	53	0
4	7.0	4	0	25	0	54	0
5	3.9	5	2.4	26	2.4	55	2.3
6	3.9	6	9.2	27	1.7	56	1.4
7	5.4	7	6.3	28	0	57	0
8	5.2	IC401		29	0	58	0.2
9	0	1	4.8	30	2.5	59	2.4
10	1.3	2	0	31	4.9	60	4.9
11	3.7	3	0	32	2.4	61	0
12	3.7	4	0	33	2.4	62	0
13	6.9	5	0	34	2.4	63	1.6
14	4.5	6	0.1	35	0	64	0
15	3.2	7	0.2	36	0	65	2.1
16	5.5	8	0.1	37	2.4	66	2.1
17	3.1	9	4.9	38	0	67	0.8
18	5.8	10	0	39	0	68	0.9
19	3.2	11	0	40	4.8	69	4.1
20	5.7	12	0	41	0	70	4.4

Pin	V	Pin	V	Pin	V	Pin	V
IC401		3	4.1	3	2.5	28	2.3
71	4.5	4	0	IC801		29	4.9
72	4.4	5	0	1	4.9	30	2.1
73	4.9	6	4.9	2	4.9	31	2.3
74	2.7	7	0	3	4.9	32	0
75	2.8	8	4.9	4	4.9	33	4.2
76	2.5	9	0	5	4.9	34	4.9
77	0	10	4.9	6	0	35	4.9
78	4.4	11	0	7	0	36	4.9
79	4.2	12	4.9	8	0	37	4.9
80	4.2	13	0	9	0	38	4.9
IC402		14	4.9	10	0	39	4.9
1	2.4	IC571		11	4.9	40	4.9
2	3.0	IN	19.5	12	0	41	4.9
3	0	GROUND	0	13	5.2	42	4.9
4	4.9	OUT	15.0	14	0	43	4.9
5	2.5	IC572		15	0	44	0
6	2.5	IN	11.6	16	0	45	0
7	0	GROUND	0	17	4.8	46	0
8	2.4	OUT	9.1	18	0	47	0
9	2.5	IC601		19	0	48	0
10	4.9	1	0	20	0	49	0
11	0	2	7.5	21	0	50	0
12	3.0	3	5.1	22	4.9	51	4.9
13	2.4	4	5.1	23	4.9	52	4.9
14	4.9	5	6.7	24	4.9	53	4.9
IC404		IC602		25	4.9	54	4.9
1	0.8	1	10.7	26	4.9	55	0.2
2	4.1	2	0	27	0	56	4.9

Pin	V
IC801	
57	0
58	0
59	0
60	0
61	0
62	4.9
63	3.9
64	4.9
IC802	
1	4.9
2	4.9
3	0
IC803	
1	4.9
2	4.9
3	4.9
4	4.9
5	0
6	4.9
7	4.9
8	4.9
IC851	
1	0
2	0.5
3	0.7
4	5.1
5	0
6	0

Pin	V
7	11.7
8	11.7
9	0.7
10	0.5
IC852	
1	0
2	0.5
3	0.7
4	5.1
5	0
6	0
7	11.7
8	11.7
9	0.7
10	0.5
IC1000	
1	11.7
2	5.3
3	0
4	2.8
5	11.2
6	11.3
7	0
8	11.4
9	23.6
IC1100	
1	4.6
2	0
3	4.6

Pin	V
4	0
5	6.5
6	11.5
7	4.6
8	0
9	6.5
10	0
11	3.6
12	4.9
13	4.9
14	4.9
15	3.6
16	0
17	4.9
18	4.9
19	4.9
20	3.6
IC1101	
1	0
2	2.7
3	2.7
4	0
5	10.8
6	2.6
7	11.5
8	2.5
IC6201	
1	4.9
2	0.2

Pin	V
3	0.1
4	0
5	0
6	0.1
7	2.4
8	0
9	2.4
10	5.3
11	5.3
12	8.1
13	5.2
14	5.2
15	10.7
16	11.6

Pin	V
IC6301	
1	0
2	0
3	1.5
4	2.3
5	1.5
6	1.4
7	2.8
8	0.9
9	0.5
10	1.6
11	0
12	0
13	4.9
14	4.9
15	1.7
16	2.4
17	3.4
18	3.4
19	3.9
20	2.9
21	2.9
22	4.9
23	4.9
24	0
IC6302	
1	0
2	1.8
3	1.5

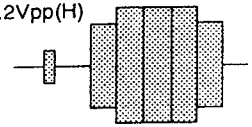
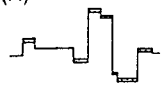
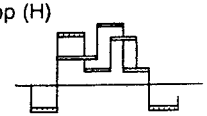
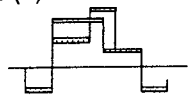
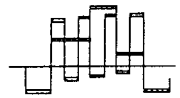
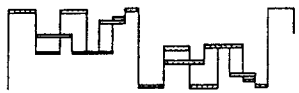
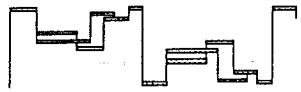
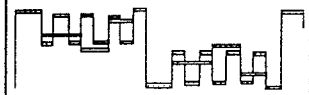
Pin	V
4	1.4
5	2.6
6	0.3
7	0.2
8	0.2
9	3.5
10	0.4
11	0
12	0
13	4.9
14	4.9
15	0
16	0.7
17	3.5
18	3.9
19	3.9
20	2.9
21	2.9
22	4.9
23	4.9
24	0
IC6312	
1	1.5
2	2.2
3	1.7
4	1.8
5	1.4
6	4.5
7	0

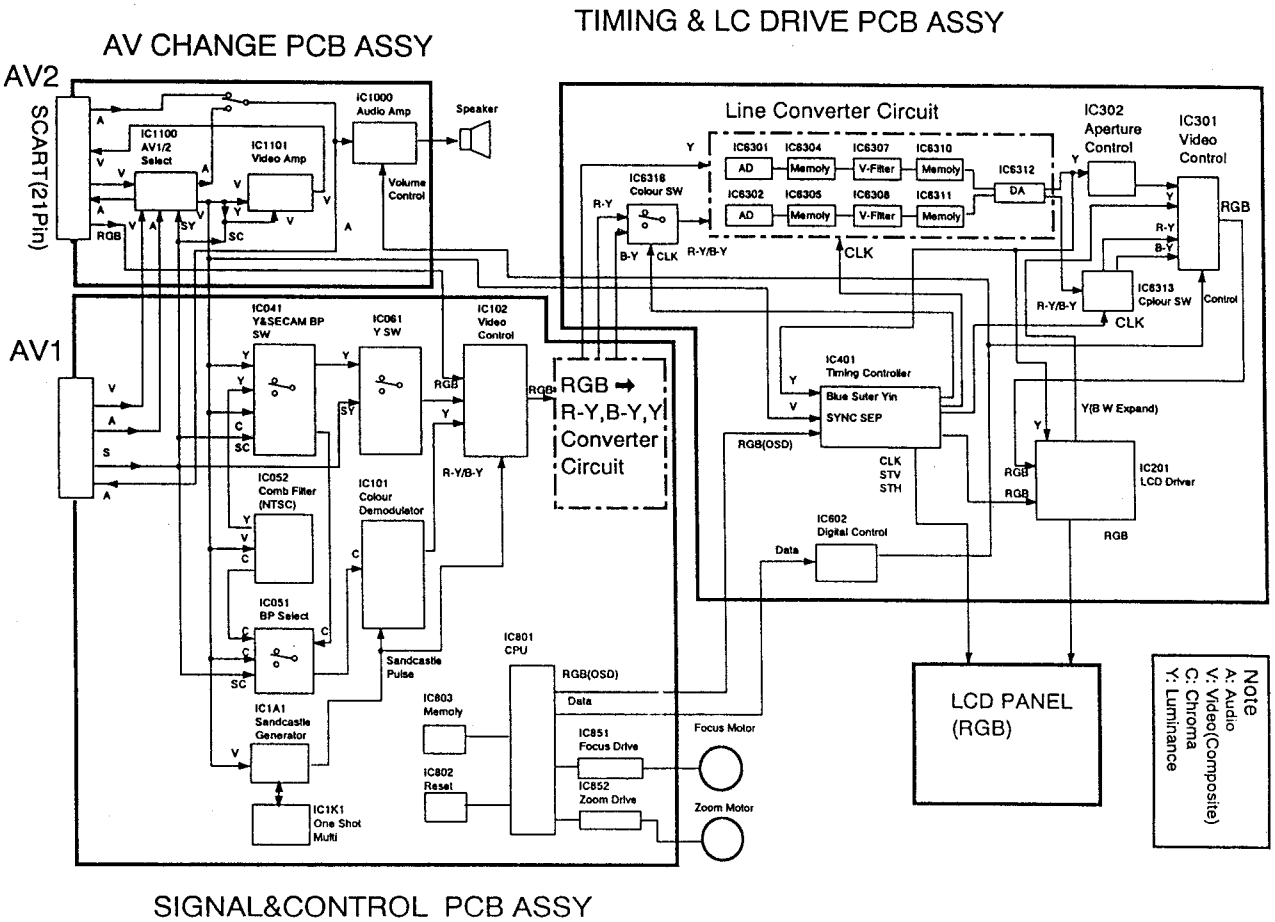
Pin	V
8	0
9	0.1
10	2.7
11	1.4
12	1.4
13	1.9
14	1.4
15	0
16	3.7
17	2.9
18	0
19	4.9
20	3.9
21	0
22	3.4
23	4.9
24	4.9
25	0.3
26	0.7
27	3.1
28	1.3
IC6313	
1	3.9
2	3.9
3	0
4	0
5	0
6	0
7	0

Pin	V
8	0
9	0
10	2.3
11	0
12	0
13	0
14	0
15	3.9
16	4.9

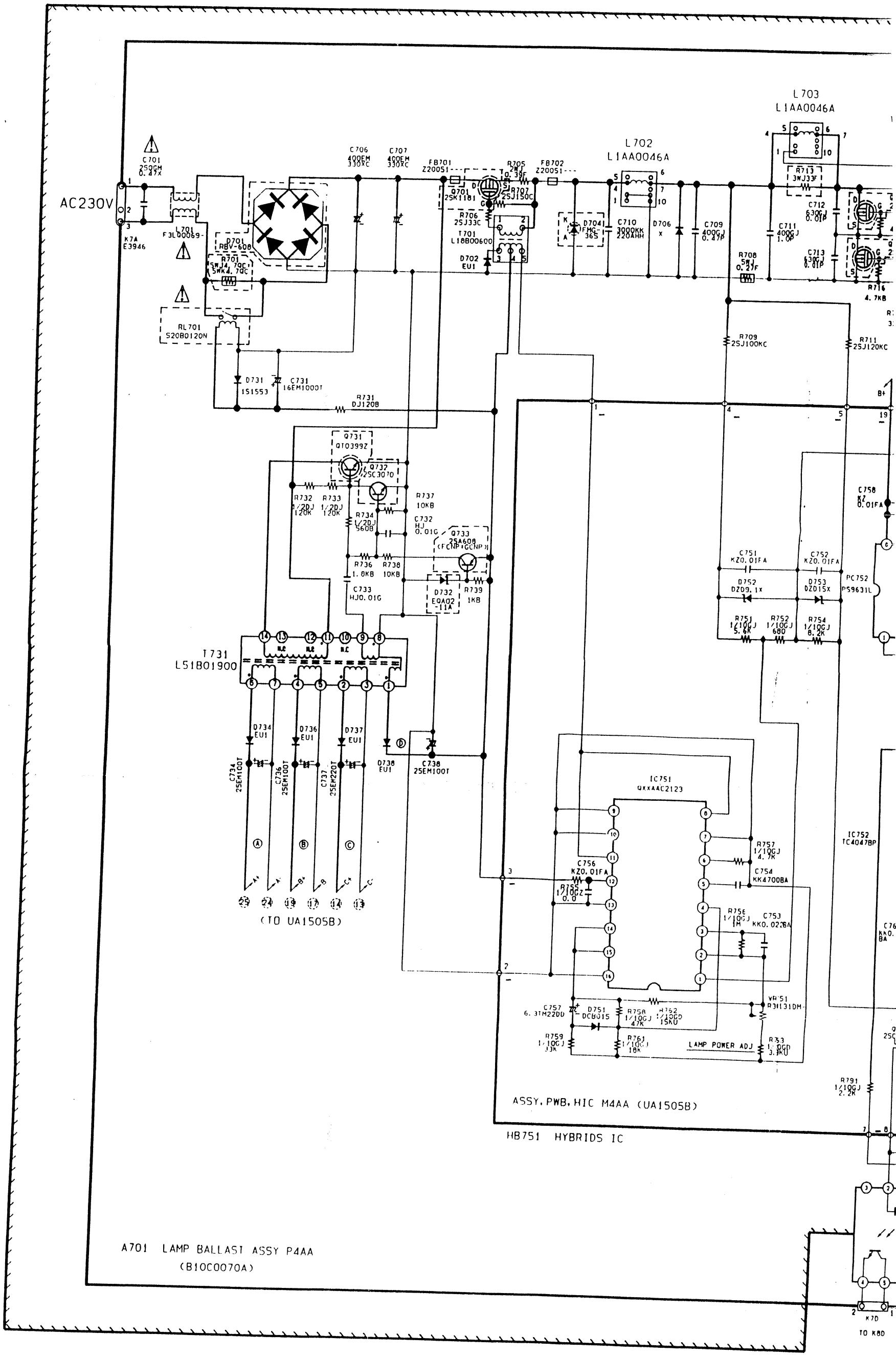
Pin	V	Pin	V
IC6314		8	0
1	0	9	0.2
2	1.7	10	2.3
3	1.5	11	0.2
4	1.7	12	3.3
5	1.6	13	3.5
6	4.6	14	3.3
7	3.9	15	3.3
8	0	16	4.9
9	4.5	PC601	
10	0	1	11.7
11	3.4	2	10.7
12	0.1	3	0.1
13	3.9	4	− 1.9
14	0	5	13.3
15	1.6	6	0.4
16	1.6		
17	1.6		
18	1.6		
19	0		
20	4.9		
IC6316			
1	3.3		
2	3.3		
3	3.3		
4	3.5		
5	3.5		
6	0		
7	0		

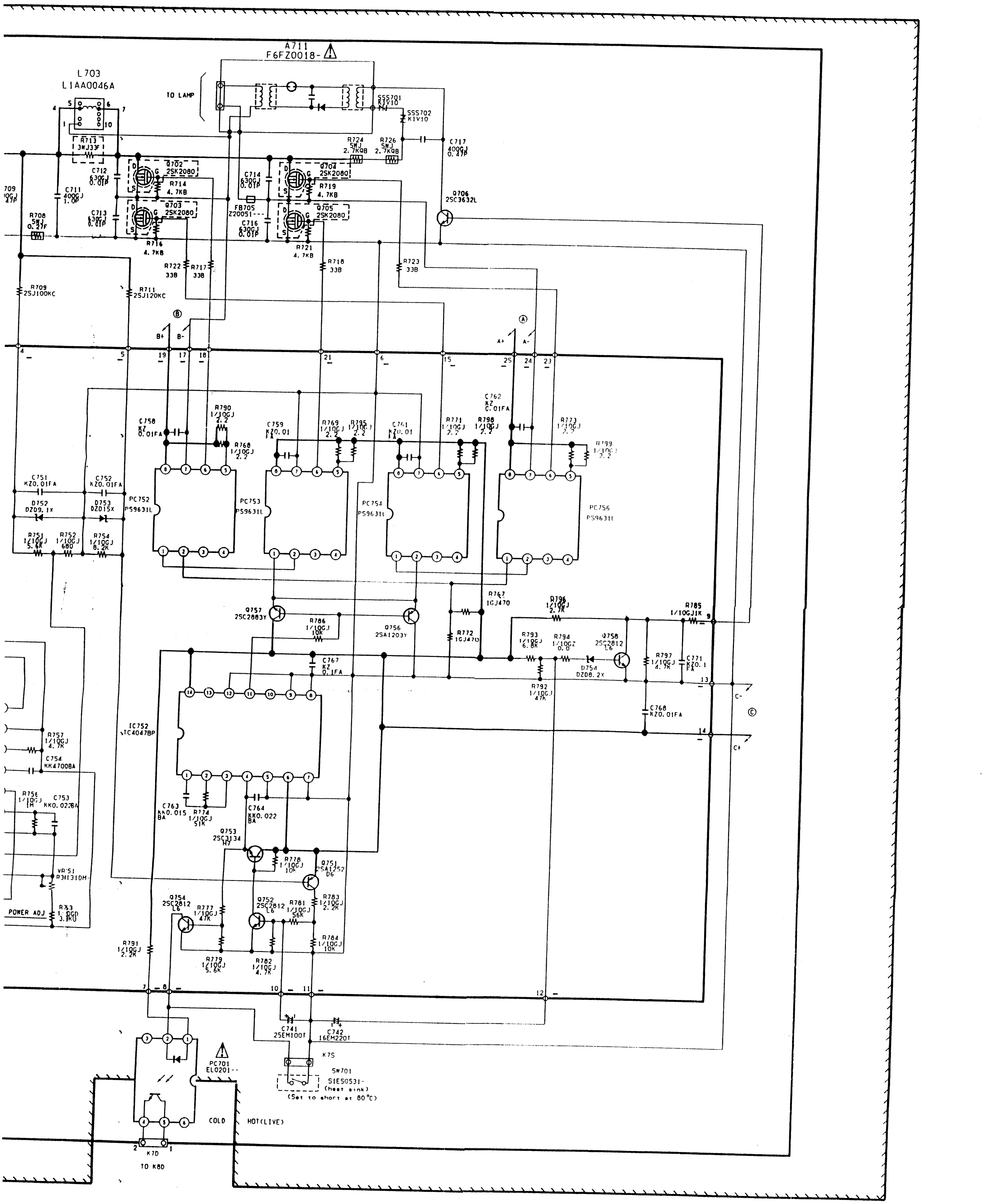
3. WAVEFORMS

IC101 15Pin(TP 1A)	IC101 1Pin (TP RY)	IC101 3Pin(TP BY)
0.2Vpp(H) 	0.2Vpp(H) 	0.2Vpp(H)
IC102 1Pin	IC102 3Pin	IC102 5Pin
4Vpp (H) 	4Vpp (H) 	4Vpp (H) 
TP 22R	TP 22G	TP 22B
1.2Vpp (H) 	1.2Vpp (H) 	1.2Vpp (H) 


AV CHANGE PCB ASSY
TIMING & LC DRIVE PCB ASSY
AV2
SCART(21Pin)
AV1
IC1100 AV1/2 Select
IC1101 Video Amp
IC1000 Audio Amp
Speaker
Volume Control
IC041 Y&SECAM BP SW
IC061 Y SW
IC102 Video Control
IC052 Comb Filter (NTSC)
IC101 Colour Demodulator
IC051 BP Select
IC1A1 Sandcastle Generator
IC1K1 One Shot Multi
Sandcastle Pulse
IC801 CPU
IC803 Memoly
IC802 Reset
RGB(OSD)
Data
IC851 Focus Drive
IC852 Zoom Drive
Focus Motor
Zoom Motor
RGB ➡ R-Y,B-Y,Y Converter Circuit
Line Converter Circuit
IC6301 IC6304 IC6307 IC6310
IC6302 IC6305 IC6308 IC6311
AD
Memoly
V-Filter
IC6312
DA
IC6318 Colour SW
R-Y
B-Y
CLK
R-Y/B-Y
IC302 Aperture Control
IC301 Video Control
IC6313 Cplour SW
Control
IC401 Timing Controller
Blue Suter Yin
SYNC SEP
CLK
STV
STH
Y(B W Expand)
IC201 LCD Driver
IC602 Digital Control
LCD PANEL (RGB)
Note
A: Audio
V: Video(Composite)
C: Chroma
Y: Luminance
SIGNAL&CONTROL PCB ASSY

The supply of extra parts of the lamp Ballast unit is limited to the parts that are Surrounded by the dotted lines on the circuit diagram for best performance and safety.

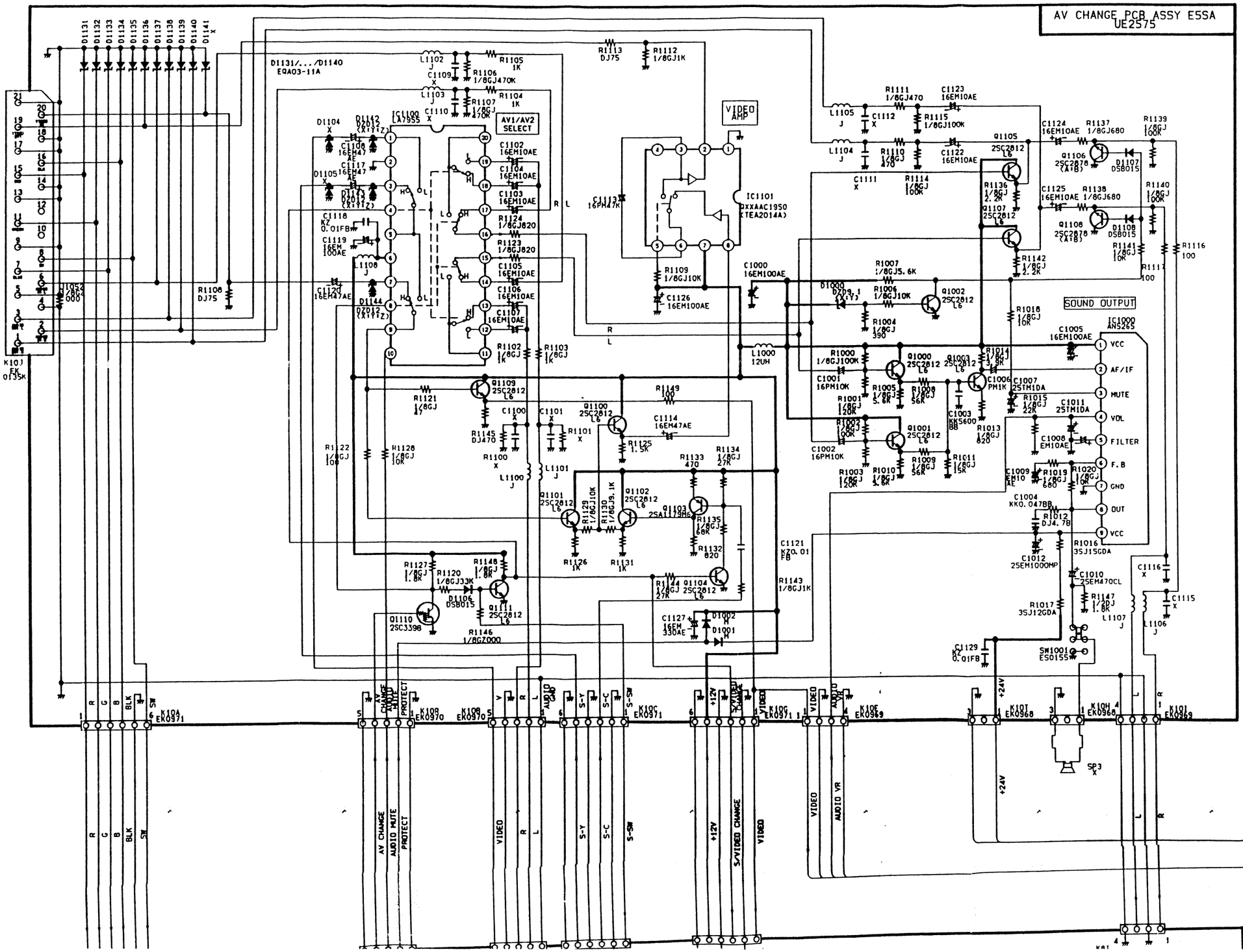


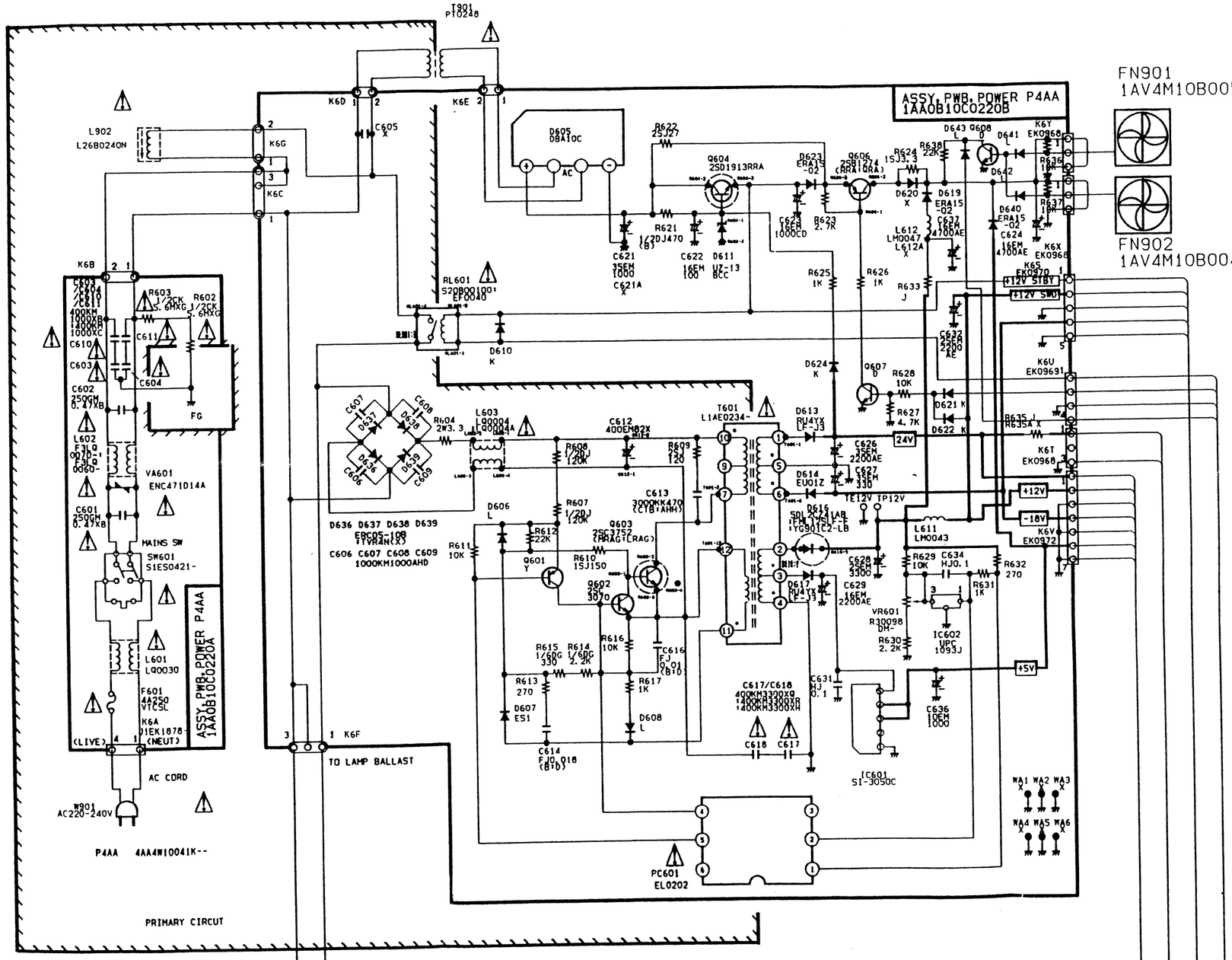

A711
F6FZ0018-
L703
L1AA0046A
TO LAMP
SSS701
K1V10
SSS702
K1V10
R713
3WJ33F
R724
5WJ
2.7KQB
R726
5WJ
2.7KQB
C717
400GJ
0.47P
Q702
2SK2080
Q703
2SK2080
Q704
2SK2080
Q705
2SK2080
C712
630GJ
0.01P
C711
400GJ
1.0P
C713
630GJ
0.01P
C714
630GJ
0.01P
C716
630GJ
0.01P
R714
4.7KB
R716
4.7KB
R719
4.7KB
R721
4.7KB
FB705
Z20051---
Q706
2SC3632L
R708
5WJ
0.27F
R722
33B
R717
33B
R718
33B
R723
33B
R709
25J100KC
R711
25J120KC
B+
B-
A+
A-
C762
KZ
0.01FA
C758
KZ
0.01FA
C759
KZ0.01
FA
C761
KZ0.01
FA
R790
1/10GJ
2.2
R768
1/10GJ
2.2
R769
1/10GJ
2.2
R795
1/10GJ
2.2
R771
1/10GJ
2.2
R798
1/10GJ
2.2
R773
1/10GJ
2.2
R799
1/10GJ
2.2
C751
KZ0.01FA
C752
KZ0.01FA
D752
DZ09.1X
D753
DZ015X
R751
1/10GJ
5.6K
R752
1/10GJ
680
R754
1/10GJ
8.2K
PC752
PS9631L
PC753
PS9631L
PC754
PS9631L
PC756
PS9631L
R767
1GJ470
R772
1GJ470
Q757
2SC2883Y
Q756
2SA1203Y
R786
1/10GJ
10K
R796
1/10GJ
2.7K
R785
1/10GJ1K
R793
1/10GJ
6.8K
R794
1/10GZ
0.0
Q758
2SC2812
L6
D754
DZ08.2X
R797
1/10GJ
4.7K
C771
KZ0.1
FA
R792
1/10GJ
47K
C768
KZ0.01FA
C767
KZ
0.1FA
IC752
TC4047BP
R757
1/10GJ
4.7K
C754
KK4700BA
R756
1/10GJ
1M
C753
KK0.022BA
C763
KK0.015
BA
R774
1/10GJ
51K
C764
KK0.022
BA
Q753
2SC3134
H7
R778
1/10GJ
10K
Q751
2SA1252
D6
Q754
2SC2812
L6
R777
1/10GJ
47K
Q752
2SC2812
L6
R781
1/10GJ
56K
R783
1/10GJ
2.2K
R784
1/10GJ
10K
R791
1/10GJ
2.2K
R779
1/10GJ
5.6K
R782
1/10GJ
4.7K
VR751
R3113IDM-
POWER ADJ
R753
1.0GD
3.3KU
C741
25EM100T
C742
16EM220T
K7S
SW701
S1ES0531-
(heat sink)
(Set to short at 80°C)
PC701
EL0201--
COLD
HOT(LIVE)
K7D
TO KBD
C-
C+

)DEL PLC-220P/PB/PP

'ice Ref. No. PLC-220P/PB/PP-00

SCHEMATIC DIAGRAMS

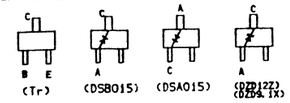




NOTES:

1. RESISTORS SPECIFIED WITH RESISTANCE VALUE ARE "1/6DJ".
2. RESISTORS SPECIFIED WITH TYPE OF RESISTOR. TOLERANCE AND RESISTANCE VALUE ARE "1/4".
3. ALL CAPACITORS ARE 50WV OR 63WV RATING UNLESS OTHERWISE NOTED.
4. PARTS SPECIFIED WITH "X" ARE NOT INSTALLED IN THIS MODEL.
5. PARTS SPCIFIED WITH "J" ARE JUST JUMPER WIRES.
6. BOTTOM VIEW OF TR & IC.

7. TOP VIEW OF CHIP TR&CHIP DIODES.



8. ISOLATION BOARDER LINE.

9. LIST OF REPLACEABLE TRANSISTORS AND DIODES.

(DIODE)

	SANYO CODE	DIODE
-	7ED00101	1S1555. 1S2473. 1S2076. 1SS133. DS442. 1SS178
K	7E100007	1S1555. 1S2473. 1S2076. DS442
L	7E100028	1S1553. 1S2076A. 1S2471
M	7ED00025	1SS176. GM401. 1SS133
N	7ED00020	1S1555. 1S2473. 1S2076. 1SS133. DS442. 1SS176. 1N4148
P	7ED00021	1S1553. 1S2076A. 1S2471. 1N418

(NPN. TR)

	SANYO CODE	2SC536	2SC945A	2SC1815	2SC1740	2SC1740S	KSC945C
A	7QT00214	E. F. G	P. Q. R	O. Y. G	Q. R. S	Q. R. S	
B	7QT00083	E. F. G	P. Q. R	O. Y. G	Q. R. S		
D	7QT00128	F. G	P. Q	Y. G	Q. R. S		
F	7QT00168	F. G	P	G	R. S		
H	7TK00001	F. G	P. Q	Y. G	Q. R. S		Y. G
I	7TK00002	E. F. G	P. Q. R	O. Y. G	Q. R. S		Y. G
G	7TK00005	F. G	P	G	R. S		G

(PNP. TR)

	SANYO CODE	2SA608	2SA564A	2SA1015	2SA933	2SA933S	KSA7333C
Y	7QT00419	E. F	Q. R	O. Y. G	O. R		
W	7QT00421	F	R	Y. G	R		
V	7TK00003	E. F	Q. R	O. Y. G	O. R		Y. G
U	7TK00004	F	R	Y. G	R		G

ASSY, PWB, SIGNL & CNTL P4AA UE2564D

TM&LC DRIV PCB ASSY E5SA
UE2576X1

R
G
B
BLK
SW
K8A EK0971
1
6

AV CHANGE
AUDIO MUTE
PROTECT
K8R EK0970
5
1

VIDEO
R
L
K8B EK0970
5
1

S-Y
S-C
S-SW
K8C EK0971
6
1

+12V
S-VIDEO CHANGE
VIDEO
K8G EK0971
1

VIDEO
AUDIO
L
R
K8I EK0969
4
1

VIDEO
AUDIO VR
K4T
X

+24V
+12V
-18V
+5V
K4V
X

K001
EK1205
S-VIDEO

K002
EK1679
VIDEO1
R1
L1
AV1

K003
EK1942
R-OUT
L-OUT

K004
EK1747
EK1745
SPEED RC

POWER SW
LAMP MONITOR
TEMP MONITOR
LAMP CHANGE
TB
+12V STBY
K8E EK0972
K4E EK0972

K8Y EK0969
39
40
41
K4Y EK0969

34
35
36
37
38
K8X EK0971
K4X EK0971

TINT
V-TONE
K0F EK0968
K4F EK0968

DSP R
DSP G
DSP B
DSP BLK
T.B.
K8OSD EK0971
K4OSD EK0971

LOAD 1
CLK
DATA
LOAD 2
PROTECT
K8W EK0972
K4W EK0972

H
V
PAL/NTSC
B. SUPER
B. BACK
EXPAND
K8P EK0972
K4P EK0972

Y
R-Y
B-Y
K8H EK0970
K4H EK0970

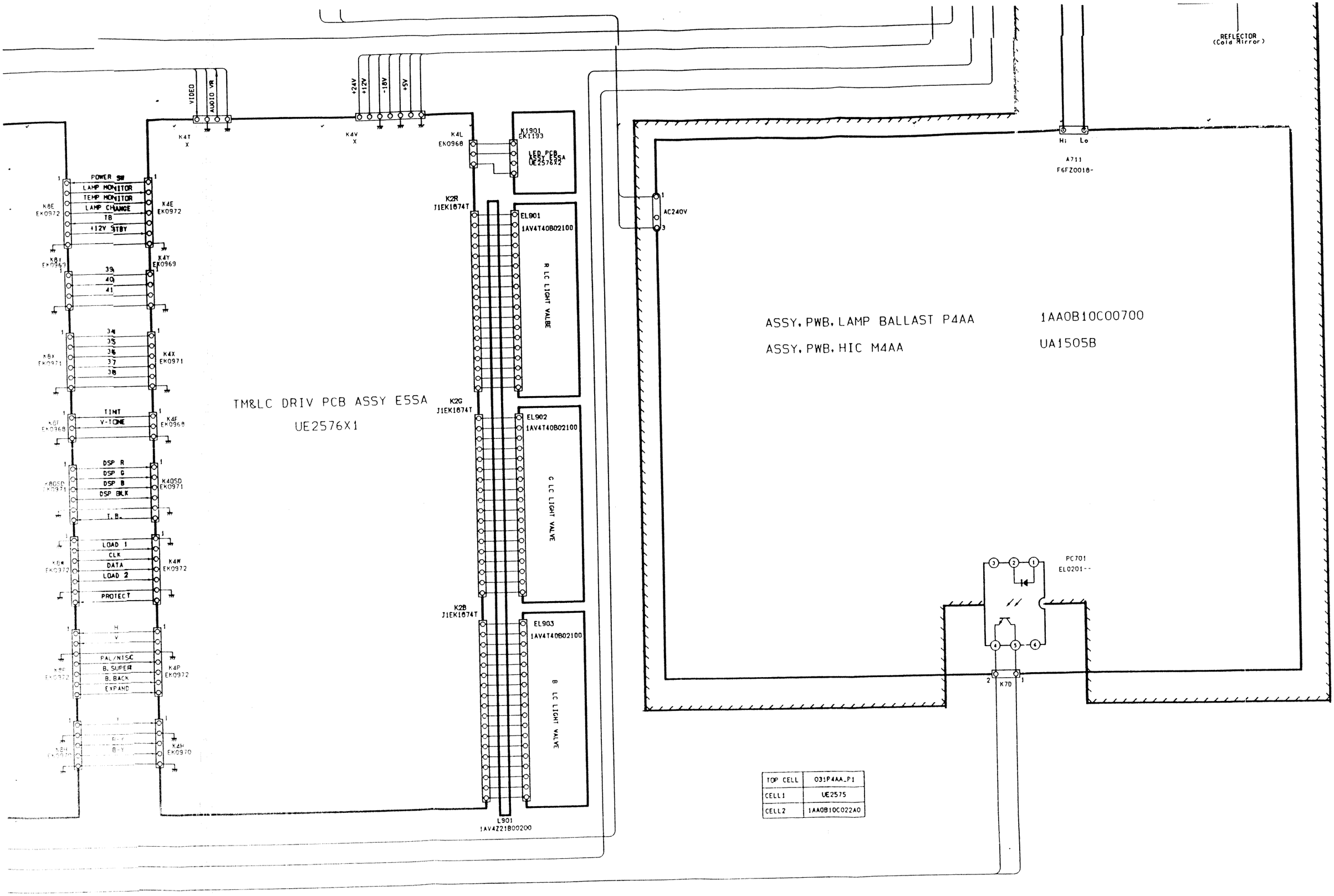
K8K EK036
FOCUS
HOLD

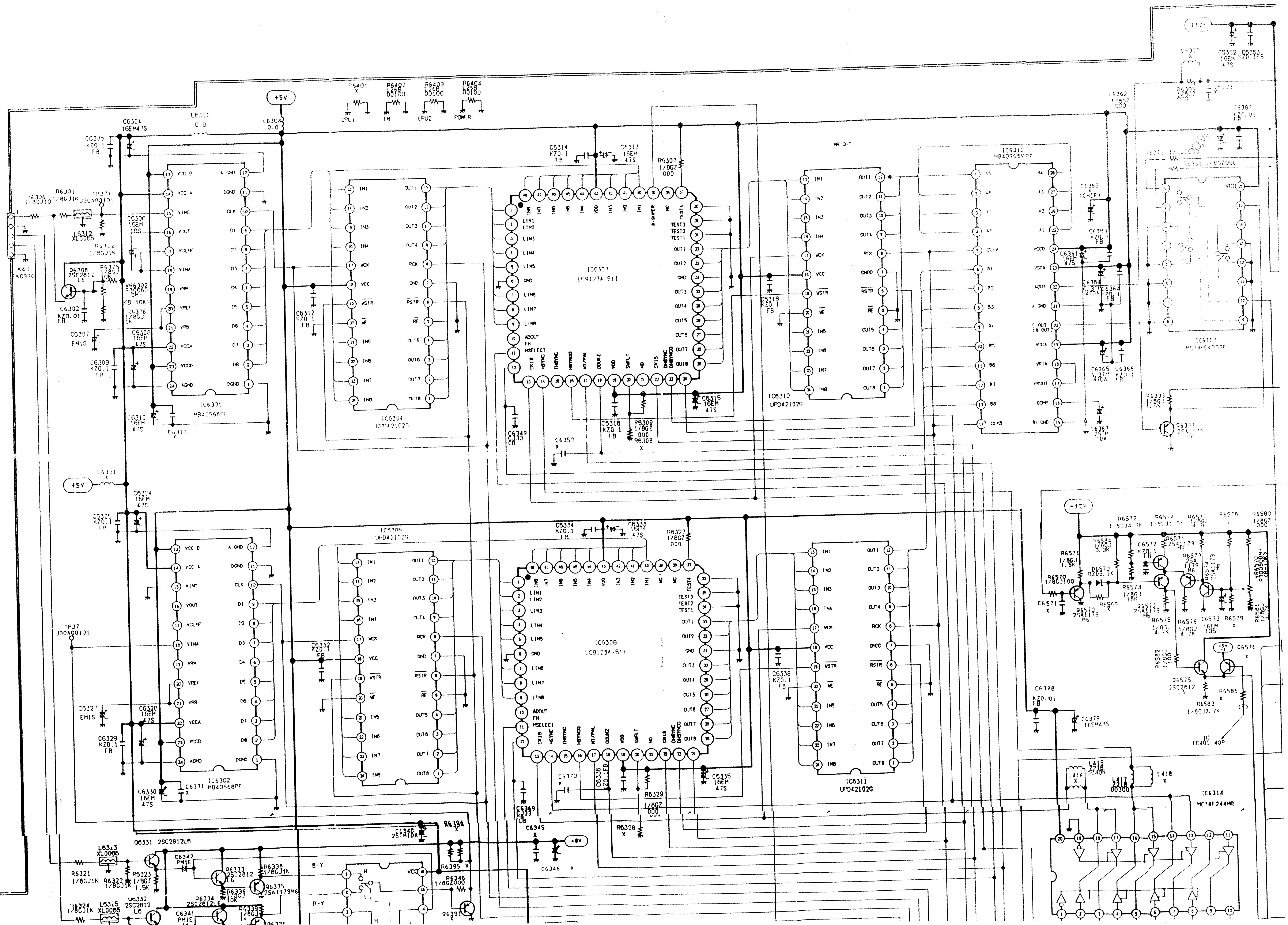
K8M EK0971
K1GHI EK1132
RC IN
5V
GND
A1902 UR0018
RC AMP
ASSY, PWB, RC AMP P4AA-D
AA0810C0220D

A1901 UR0018
RC AMP
ASSY, PWB, RC AMP P4AA-C
AA0810C0220C

K8T EK0969
K8D EK0968
+5V STBY
TEMP
SPEED
LIGHT
SENS
X SW1
X SW1

K8S EK0970
K8U EK0969


VIDEO
AUDIO VR
+24V
+12V
-8V
+5V
K4T X
K4V X
K4L EK0968
K1901 EK1193
LED PCB ASSY E5SA UE2576X2
K2R J1EK1674T
EL901 1AV4T40B02100
R LC LIGHT VALBE
K2G J1EK1674T
EL902 1AV4T40B02100
G LC LIGHT VALVE
K2B J1EK1674T
EL903 1AV4T40B02100
B LC LIGHT VALVE
L901 1AV4Z21B00200
POWER SW
LAMP MONITOR
TEMP MONITOR
LAMP CHANGE
TB
+12V STBY
K8E EK0972
K4E EK0972
K8Y EK0969
K4Y EK0969
39
40
41
K8X EK0971
K4X EK0971
34
35
36
37
38
K8F EK0968
K4F EK0968
TINT
V-TONE
K4QSD EK0971
DSP R
DSP G
DSP B
DSP BLK
I.B.
K8W EK0972
K4W EK0972
LOAD 1
CLK
DATA
LOAD 2
PROTECT
K8P EK0972
K4P EK0972
H
V
PAL/NTSC
B. SUPER
B. BACK
EXPAND
K8H EK0970
K4H EK0970
R-Y
B-Y
TM&LC DRIV PCB ASSY E5SA
UE2576X1
AC240V
Hi
Lo
A711
F6FZ0018-
REFLECTOR
(Cold Mirror)
ASSY, PWB, LAMP BALLAST P4AA
1AA0B10C00700
ASSY, PWB, HIC M4AA
UA1505B
PC701
EL0201--
K7D
TOP CELL 031P4AA_P1
CELL1 UE2575
CELL2 1AA0B10C022A0



+5V
+12V
+8V
R6401
X
CPU1
R6402
L268
00100
TH
R6403
L268
00100
CPU2
R6404
L268
00100
POWER
C6304
16EM47S
C6305
KZ0.1
FB
L6311
0.0
L6304
0.0
Y
R-Y
B-Y
K4H
K0970
R6306
1/8GJ10
R6301
1/8GJ1K
TP37Y
J30A00101
L6312
XL0065
C6306
16EM
10S
R6302
1/8GJ1K
Q6308
2SC2812
L6
R6375
1/8GJ
10K
VR6302
R30080DM-
(B-10K)
R6376
1/8GJ
1K
C6302
KZ0.01
FB
C6307
EM1S
C6308
16EM
47S
C6309
KZ0.1
FB
C6310
16EM
47S
C6311
X
VCC D
VCC A
VINC
VOUT
VCLMP
VINA
VRM
VREF
VRB
VCCA
VCCD
AGND
A GND
DGND
CLK
D1
D2
D3
D4
D5
D6
D7
D8
IC6301
MB40568PF
IN1
IN2
IN3
IN4
WCK
VCC
WSTR
WE
IN5
IN6
IN7
IN8
OUT1
OUT2
OUT3
OUT4
RCK
GND
RSTR
RE
OUT5
OUT6
OUT7
OUT8
IC6304
UPD42102G
C6312
KZ0.1
FB
C6314
KZ0.1
FB
C6313
16EM
47S
R6307
1/8GZ
000
LIN1
LIN2
LIN3
LIN4
LIN5
LIN6
LIN7
LIN8
ADOUT
FH
HSELECT
CK18
HSYNC
THSYNC
HSYNCO
NT/PAL
CCLKZ
VDD
SWFLT
NC
CK15
DHSYNC
DHSYNCO
TEST1
TEST2
TEST3
TEST4
B-SUPER
IC6307
LC9123A-511
C6315
16EM
47S
C6316
KZ0.1
FB
R6309
1/8GZ
000
R6308
X
C6349
C6333
CB
C6350
X
C6318
KZ0.1
FB
BRIGHT
IC6310
UPD42102G
IC6312
MB40968VPF
A1
A2
A3
A4
A5
A6
A7
A8
CLKA
B1
B2
B3
B4
B5
B6
B7
B8
CLKB
VCCD
VCCA
AOUT
C OUT
(B OUT)
VRIN
VROUT
COMP
D GND
C6385
X
(CHIP)
C6383
KZ0.1
FB
C6361
16EM
47S
C6384
6.3TM
470A
C6364
KZ0.1
FB
C6365
6.3TM
470A
C6366
KZ0.1
FB
C6367
25TM
10A
L6362
1/8GZ
000
L6307
X
R6305
1/8GZ
000
C6303
X
C6362
16EM
47S
C6363
KZ0.1FB
C6387
KZ0.01
FB
R6371 1/8GZ000
R6361 1/8GZ000
IC6313
MC74HC4053F
R6335
1/8GJ
1.5K
Q6337
2SA1179
L6331
X
C6324
16EM
47S
C6325
KZ0.1
FB
TP37
J30A00101
C6327
EM1S
C6328
16EM
47S
C6329
KZ0.1
FB
C6330
16EM
47S
C6331
X
IC6302
MB40568PF
IC6305
UPD42102G
C6332
KZ0.1
FB
C6334
KZ0.1
FB
C6333
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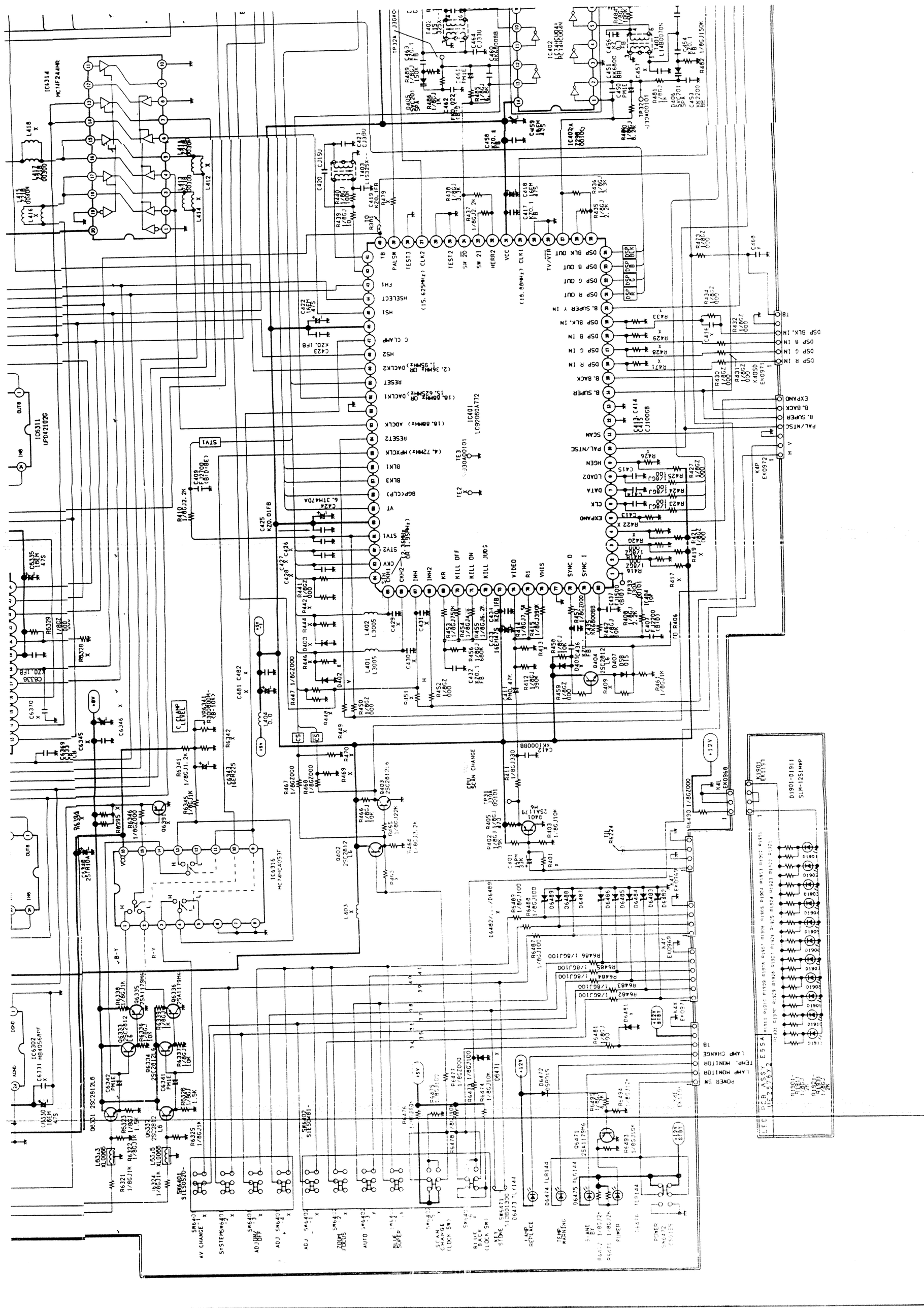
IC6314
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IC6311
UPD4210G
IC6316
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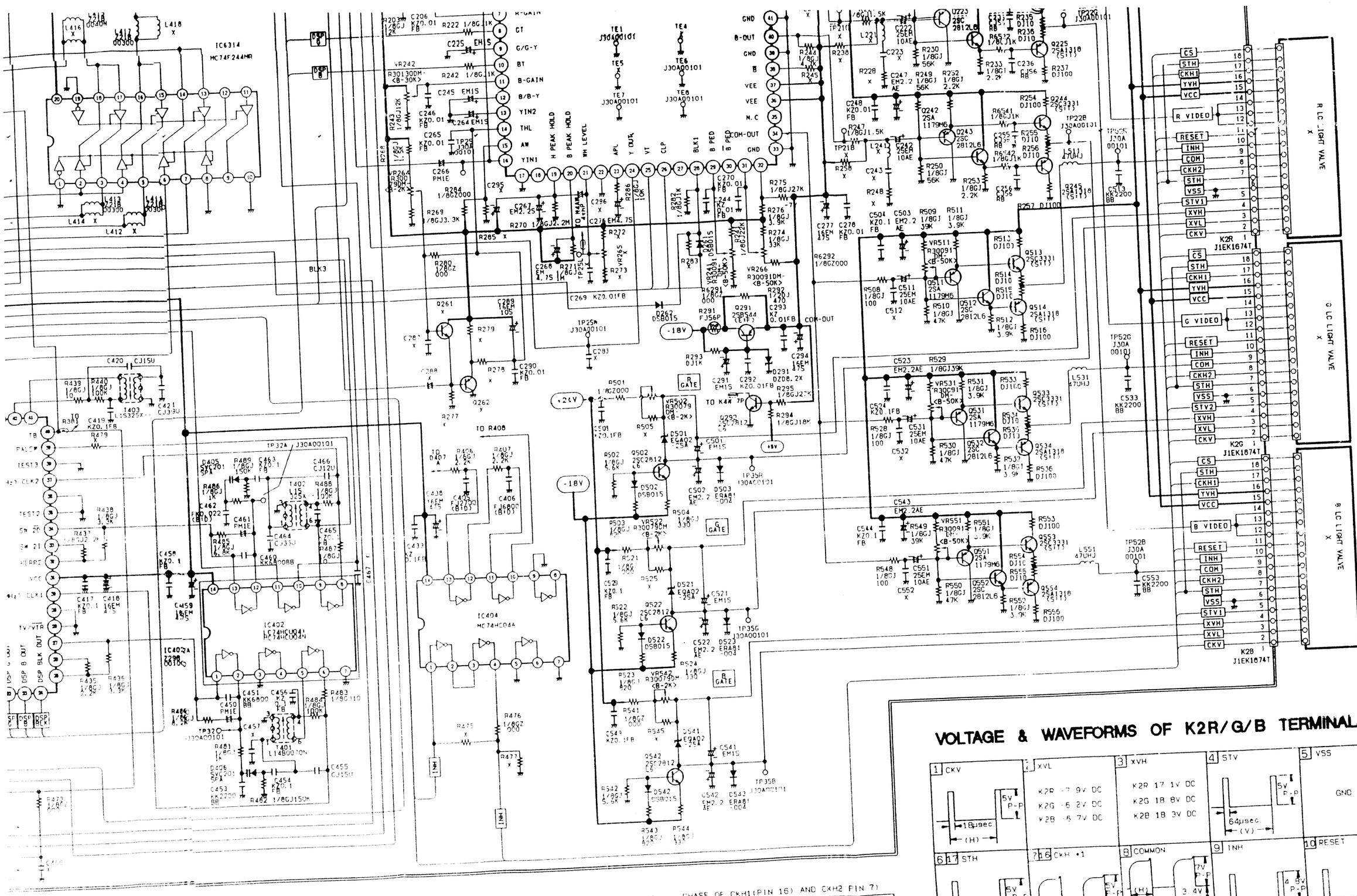
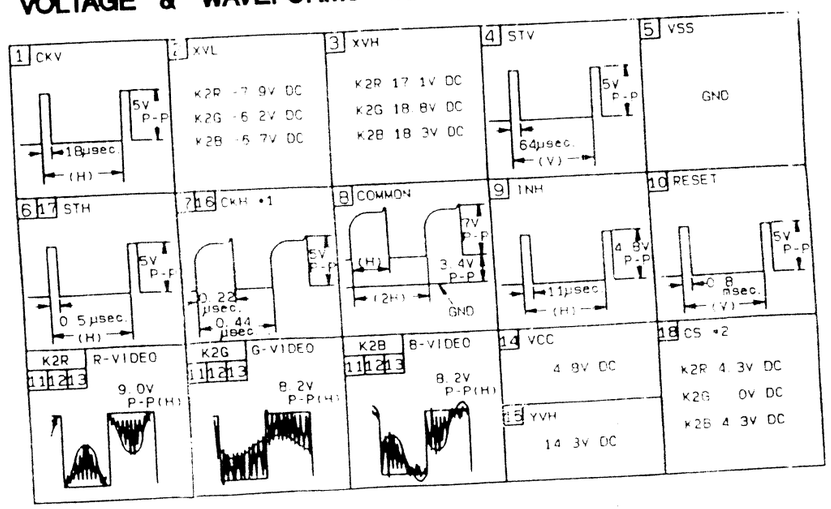
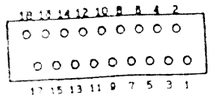
IC6302
MB4056APF
IC401
LC97060A772
IC402
LC74HC08M
IC402A
LC74HC08M
TP32A J30A00
TP32C J30A00
TP33 J30A00
TP34 J30A00
TE3 J30A00
TE2
TE1
C.LAMP
+5V
+8V
+12V
-12V
B-Y
R-Y
TB
PALSW
TEST3
CLK2
TEST2
SW 20
SW 21
HERR2
VCC
CLK1
TV/VTR
DSP BLK OUT
DSP B OUT
DSP G OUT
DSP R OUT
B. SUPER Y IN
DSP BLK. IN
DSP B IN
DSP G IN
DSP R IN
B. BACK
B. SUPER
SCAM
PAL/NTSC
HDEM
LOAD2
DATA
CLK
EXPAND
FHI
HSELECT
HSI
C CLAMP
HS2
RESET
BLK1
BLK3
VT
STV1
STV2
CKV
CKH1
CKH2
INH
INH2
KR
KILL OFF
KILL ON
KILL JUDGE
VIDEO
R1
VHIS
SYNC O
SYNC I
(15.625kHz)
(10.80MHz) CLK1
(18.00MHz) ADCLK
(15.625kHz)
(2.34MHz) DACLK2
(4.72MHz) HPXCLK
6.31MHz
(4.43MHz)
PALSW
TEST3
CLK2
TEST2
SW 20
SW 21
HERR2
VCC
CLK1
TV/VTR
DSP BLK OUT
DSP B OUT
DSP G OUT
DSP R OUT
B. SUPER Y IN
DSP BLK. IN
DSP B IN
DSP G IN
DSP R IN
B. BACK
B. SUPER
SCAM
PAL/NTSC
HDEM
LOAD2
DATA
CLK
EXPAND
FHI
HSELECT
HSI
C CLAMP
HS2
RESET
BLK1
BLK3
VT
STV1
STV2
CKV
CKH1
CKH2
INH
INH2
KR
KILL OFF
KILL ON
KILL JUDGE
VIDEO
R1
VHIS
SYNC O
SYNC I
PAL/NTSC
EXPAND
B. SUPER
B. BACK
DSP BLK. IN
DSP B IN
DSP G IN
DSP R IN
TB
H
V
CPU SCAN CHANGE
POWER SW
LAMP CHANGE
TEMP. MONITOR
LAMP MONITOR
TO R406
AV CHANGE
SYSTEM SW
ADJ OFF
ADJ SW
ZOOM FOCUS
AUTO SW
BLUE BACK
SCAN CHANGE (LOCK SW)
BLUE BACK (LOCK SW)
KEY STONE
LAMP REPLACE
TEMP WARNING
STAND BY
POWER
PCB ASSY, ESSA
LEC-25276X2
SLM-1251MHP



VOLTAGE & WAVEFORMS OF K2R/G/B TERMINALS



NUMBER OF CONNECTOR K2R/G/B TERMINAL
(VIEWED FROM FOIL SIDE OF P.W.B.)



*1 PHASE OF CKH1(PIN 16) AND CKH2 PIN 7)

SCANNING	PHASE
NORMAL	CKH2 IS FORWARD 90 DEGREE FROM CKH1
REVERSE	CKH1 IS FORWARD 90 DEGREE FROM CKH2

*2 SCANNING CHANGE

SCANNING	K2R-18	K2G-18	K2B-18
NORMAL	4.3V	0V	4.3V
REVERSE	0V	4.3V	0V

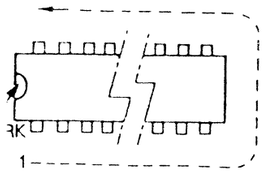
MODEL PLC-220P/PB/PP

Service Ref. No. PLC-220P/PB/PP-00

SEMICONDUCTORS BASING

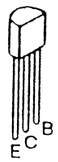
ITEGRATED CIRCUIT

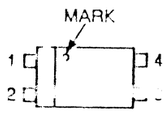
TOP VIEW

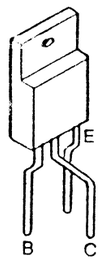


ınt terminal in arrow direction.

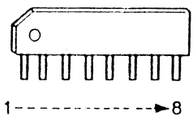
TRANSISTORS

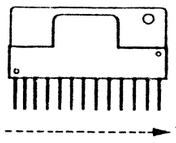


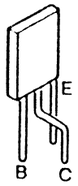




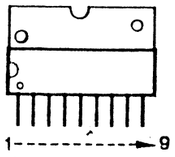
SIDE VIEW



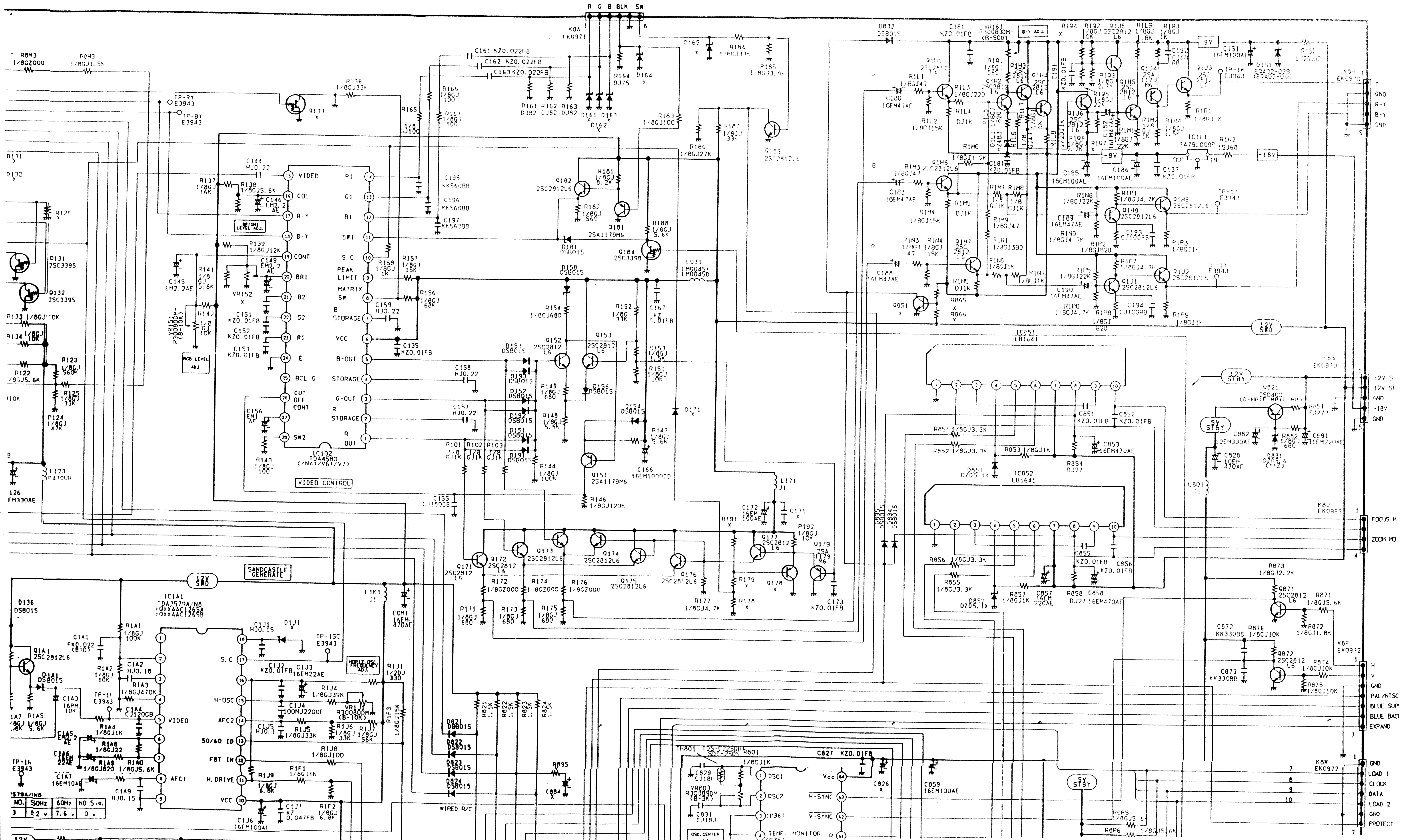




B..... BASE
C..... COLLECTOR
E..... EMITTER

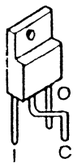


IC601~IC603



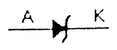
R G B BLK SW
K8A EK0971
VIDEO CONTROL
IC102 TDA4580 (/N41/V61/V7)
VIDEO COL R-Y B-Y CONT BRI B2 G2 R2 E BCL G CUT OFF CONT SW2
R1 G1 B1 SW1 S.C PEAK LIMIT MATRIX SW B STORAGE VCC B-OUT STORAGE G-OUT R STORAGE R OUT
BRIGHT LEVEL ADJ.
RGB LEVEL ADJ
TP-RY E3943
TP-BY E3943
SANDCASTLE GENERATE
12V SWD
IC1A1 TDA2579A/N8 QXXAAC1265A QXXAAC1265B
VIDEO AFC1 S.C H-OSC AFC2 50/60 ID FBT IN H. DRIVE VCC
HORIZ.OSC FREQUENCY ADJ.
TP-1SC E3943
TP-1F E3943
TP-1H E3943
2579A/N8
NO. | 50Hz | 60Hz | NO S.G.
3 | 1.2 v | 7.6 v | 0 v
WIRED R/C
B-Y ADJ.
9V
-8V
-18V
IC1L1 TA79L008P OUT IN
TP-1M E3943
TP-1X E3943
TP-1Y E3943
K8H EK0970
Y GND R-Y B-Y GND
IC851 LB1641
IC852 LB1641
12V STBY
5V STBY
Q821 2SD400
K8S EK0970
12V S GND -18V GND
K8J EK0969
FOCUS M ZOOM MO
K8P EK0972
H V GND PAL/NTSC BLUE SUP BLUE BACK EXPAND
K8W EK0972
GND LOAD 1 CLOCK DATA LOAD 2 GND PROTECT
TH801 TD5-C225DH1 SDT-250S
DSC1 DSC2 (P36) TEMP. MONITOR
Vcc H-SYNC V-SYNC
OSD.CENTER

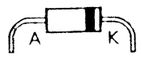
IC601~IC603

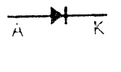


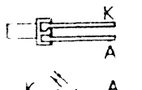
I.....INPUT
O.....OUTPUT
C.....COMMON

DIODES









INFRARED EMITTING DIODE

A .....ANODE
K .....CATHODE

CAPACITOR AND RESISTORS CODE CHART

CAPACITOR (Example)

500 C K 1500 B

- Characteristic
- Value code
- Tolerance code — D ..... ± 0.5pF; T ..... + 50% – 10%; J ..... ± 5%; K ..... ± 10%; M ..... ± 20%; N ..... ± 30%; P ..... + 100% – 0%; Z ..... + 80% – 20%; C ..... ± 0.25pF
- Material code — C ..... Ceramic; E ..... Electrolytic; F ..... Polyester; N ..... Polypropylene; T ..... Tantalum; K ..... Ceramic; H ..... MT-Composite; P ..... NP. Electroltic; M ..... MT-polyropylene
- Voltage number

RESISTOR (Example)

6 Y K 4.7

- Value code
- Tolerance code — D ..... ± 0.5%; F ..... ± 1%; G ..... ± 2%; J ..... ± 5%; K ..... ± 10%; M ..... ± 20%
- Meterial code — F ..... Carbon film; N ..... Metalized carbon; S ..... Oxide metallxed; Y ..... Wirewound; C ..... Solid; D ..... Carbon film; W ..... Wire Wound
- Wattage number

TDA2579A/N8			
Pin NO.	50Hz	60Hz	NO S.a.
13	12 v	7.6 v	0 v

	AUTO	PAL	SECAM	NT3.58	NT4.43
S6	H	L	H	H	H
S5	H	H	L	H	H
S4	H	H	H	L	H
S3	H	H	H	H	L

	AV 1	AV 2	RGB
S2	H	L	L
S1	H	H	L

IC1K1 SN74LS123M

IC803 M6M80011AP MEMORY

IC802 MN1280 S RESET

IC801 QxxAAC2133 (M37102M8-823SP) CPU

NOISE WIRE

PRODUCT SAFETY NOTICE

THE COMPONENTS DESIGNATED BY A MARK(⚠) IN THIS SCHEMATIC DIAGRAM DESIGNATE COMPONENTS WHOSE VALUES ARE OF SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. SHOULD ANY COMPONENT DESIGNATED BY A MARK NEED TO BE REPLACED, USE ONLY THE PART DESIGNATED IN THE PARTS LIST. DO NOT DEVIATE FROM THE RESISTANCE, WATTAGE AND VOLTAGE RATINGS SHOWN.

SERVICE NOTES;

1. When replacing parts on circuit boards, clamp the lead wires to terminals before soldering.
2. When replacing high wattage resistors on circuit board, keep the resistor body 10 mm (3/8") from circuit board.
3. Keep wires away from high voltage and high temperature components.

NOTES ON SCHEMATIC DIAGRAM

Specification of capacitor and resistors will be shown with coded symbols, reading code symbols following the chart and notes. Some capacitor and resistors will be shown directly with values and no other information. Detailed information on each capacitor and resistor will be shown in the list.

NOTE: DO NOT REPLACE OR ORDER RESISTOR AND CAPACITOR PARTS FOLLOWING THE SPECIFICATIONS SHOWN IN THE SCHEMATIC DIAGRAMS.
ALWAYS CHECK FOR THE CORRECT SPECIFICATIONS IN THE PARTS LIST, ESPECIALLY FOR CRITICAL COMPONENT MARKED ⚠ . SPECIAL ATTENTION MUST BE GIVEN TO CRITICAL COMPONENTS.

Read resistor codes as follows:

1. All resistance values are indicated in ohms: K=1,000. M=1,000,000.
2. All resistance values are 1/6W, ± 5% unless otherwise identified with the code.
   Read wattage, material and tolerance codes following the chart..

Read capacitor codes as follows:

1. For capacitors identified with with ⊣⊢, values less than 1 are expressed in μF, values more than 1 are in pF.
2. For capacitors (electrolytic) identified with ⊣⊢ , values are expressed in μF.

Notes on all parts on schematic diadram

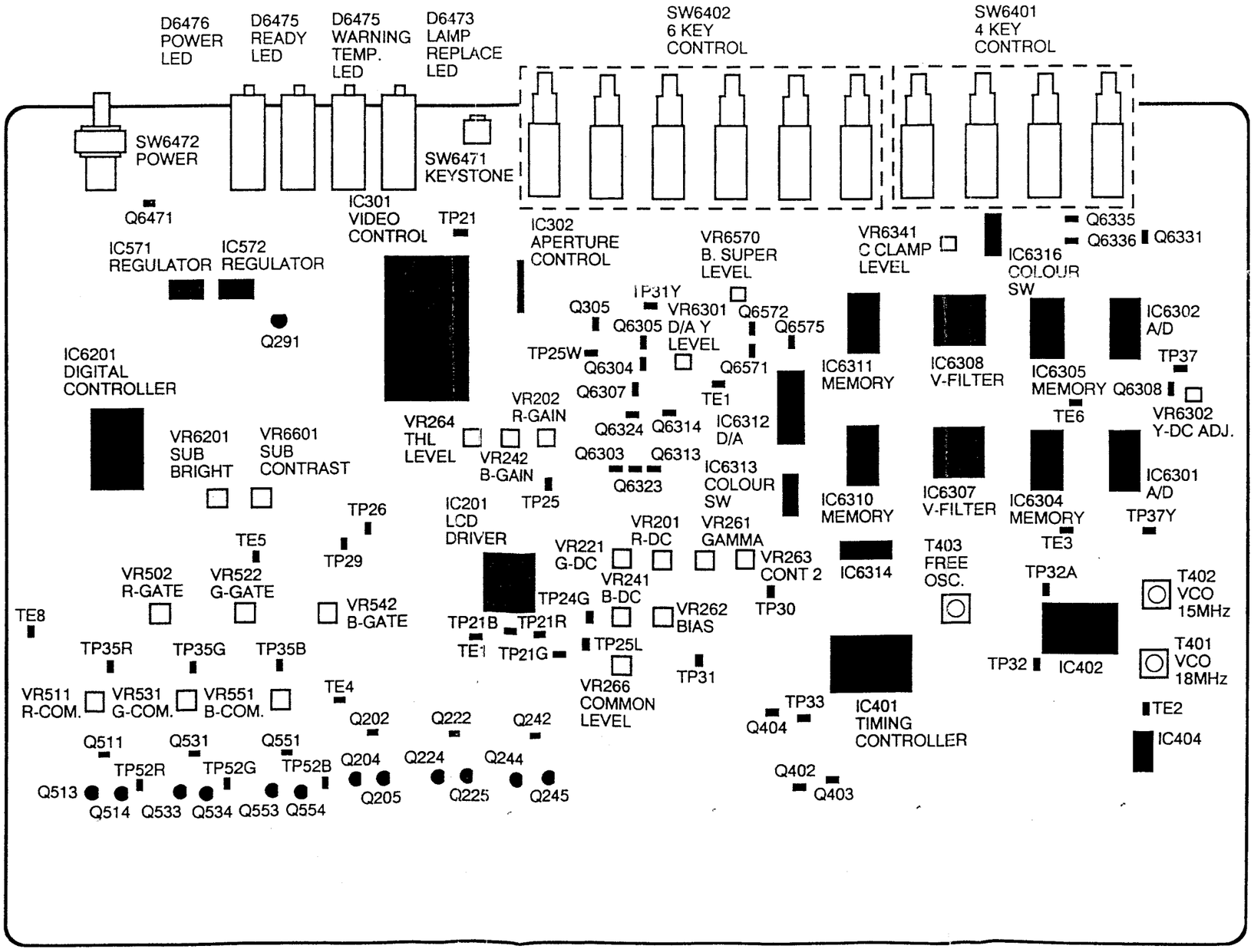
1. Parts specified with "X" are not installed in this noted.
2. Parts specified with "J" are just jumper wires.

MODEL PLC-220P/PB/PP

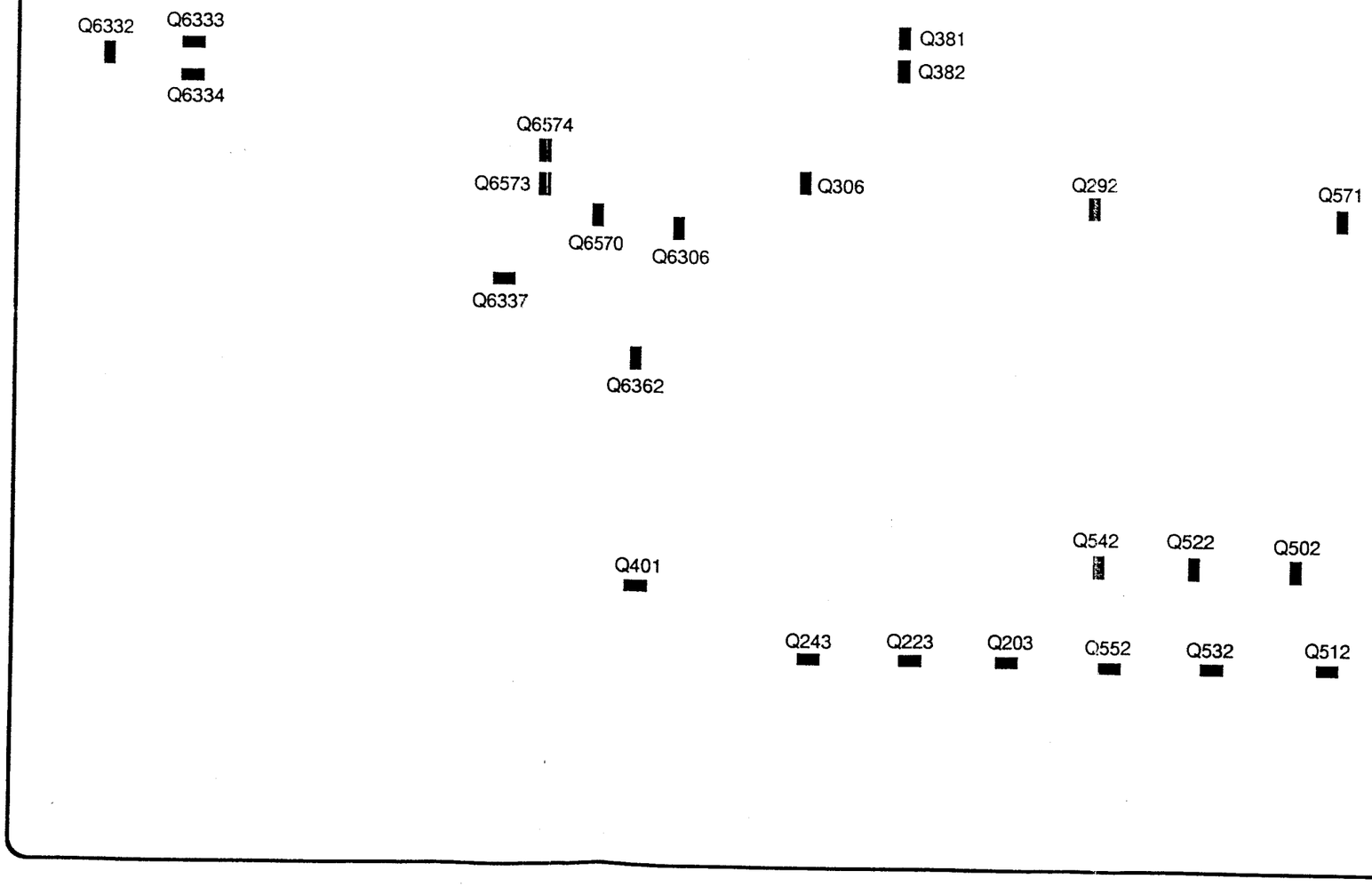
Service Ref. No. PLC-220P/PB/PP-00

COMPONENT AND TESTPOINT LOCATIONS

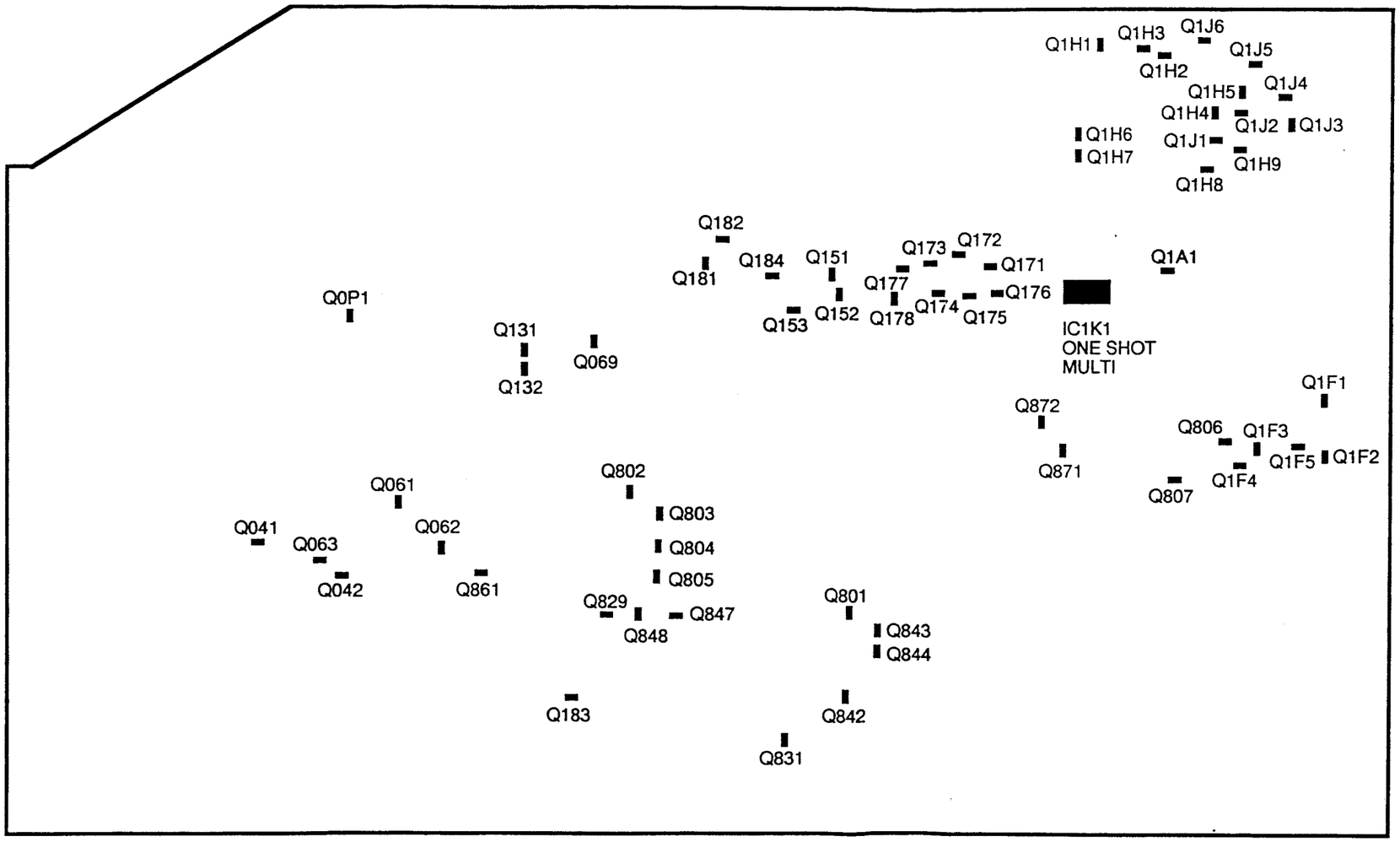
TIMING & LC DRIVE BOARD (COMPONENT SIDE)



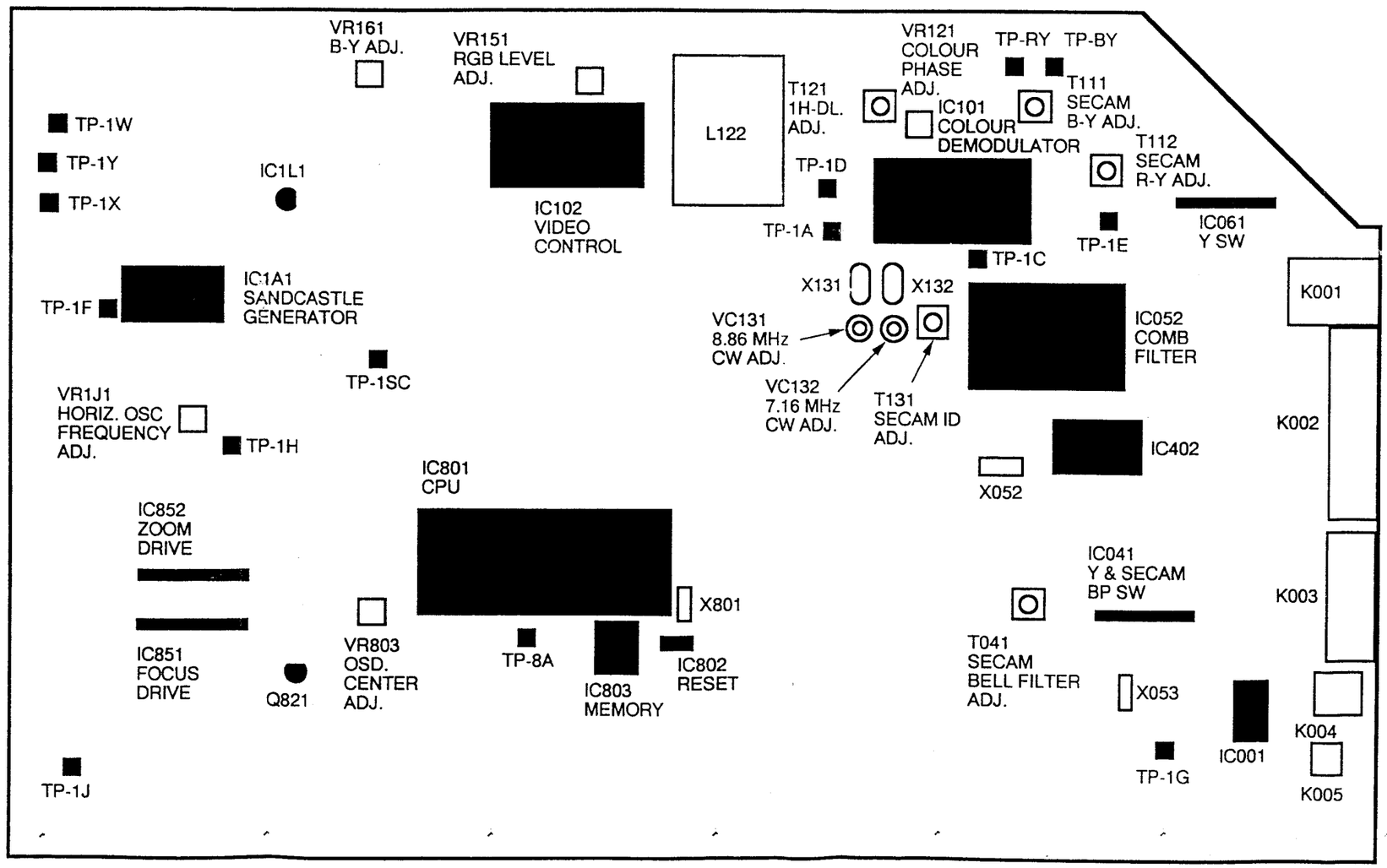
TIMING & LC DRIVE BOARD
(FOIL SIDE)



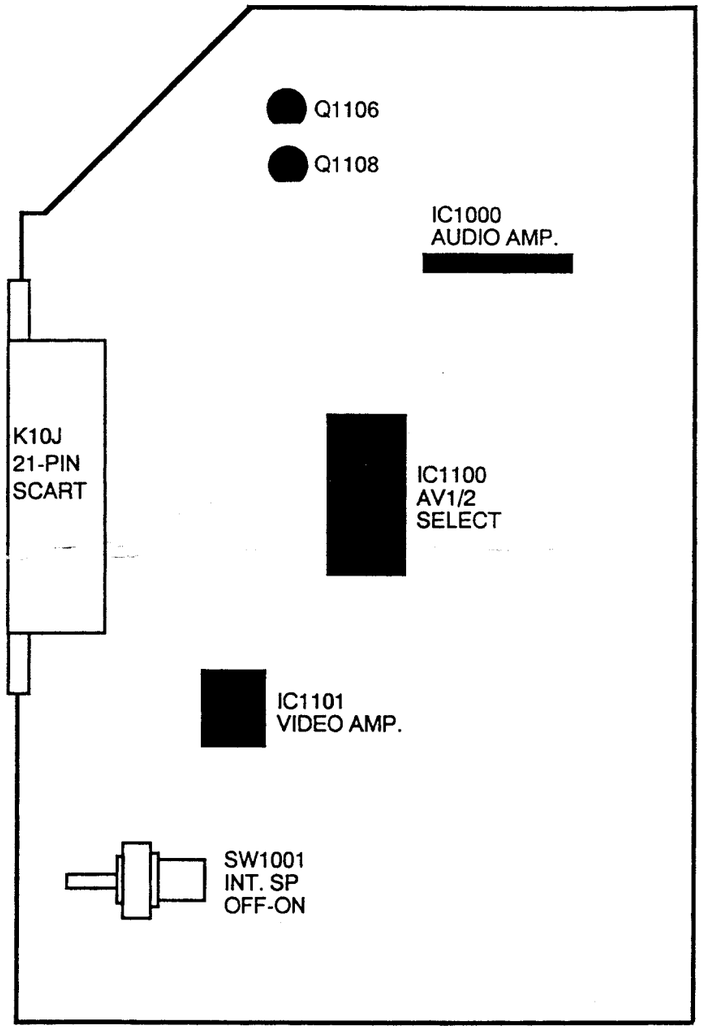
SIGNAL & CONTROL BOARD
(FOIL SIDE)



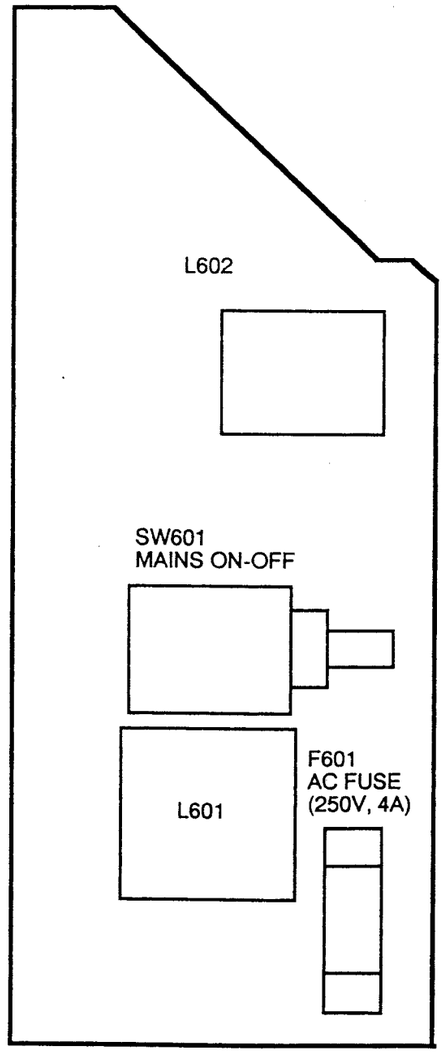
SIGNAL & CONTROL BOARD
(COMPONENT SIDE)



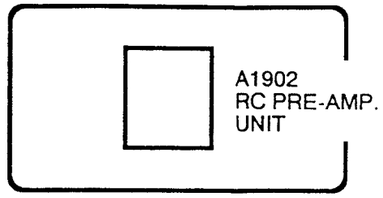
A/V CHANGE BOARD (COMPONENT SIDE)



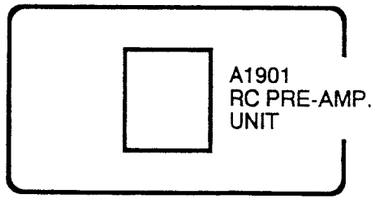
SUB POWER BOARD



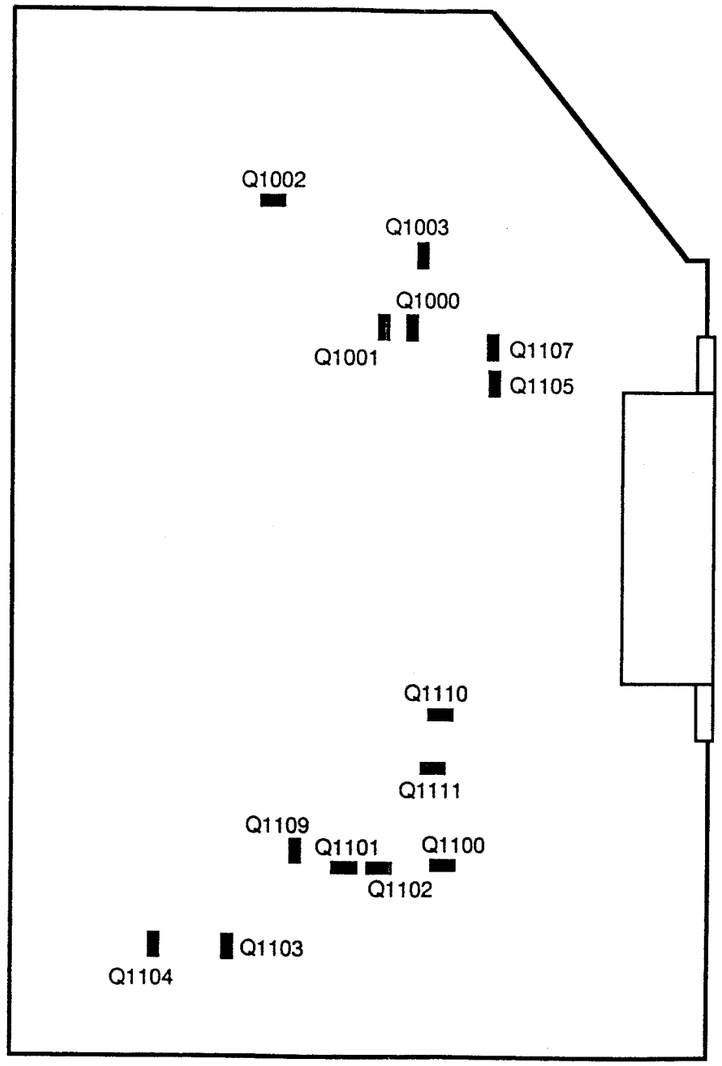
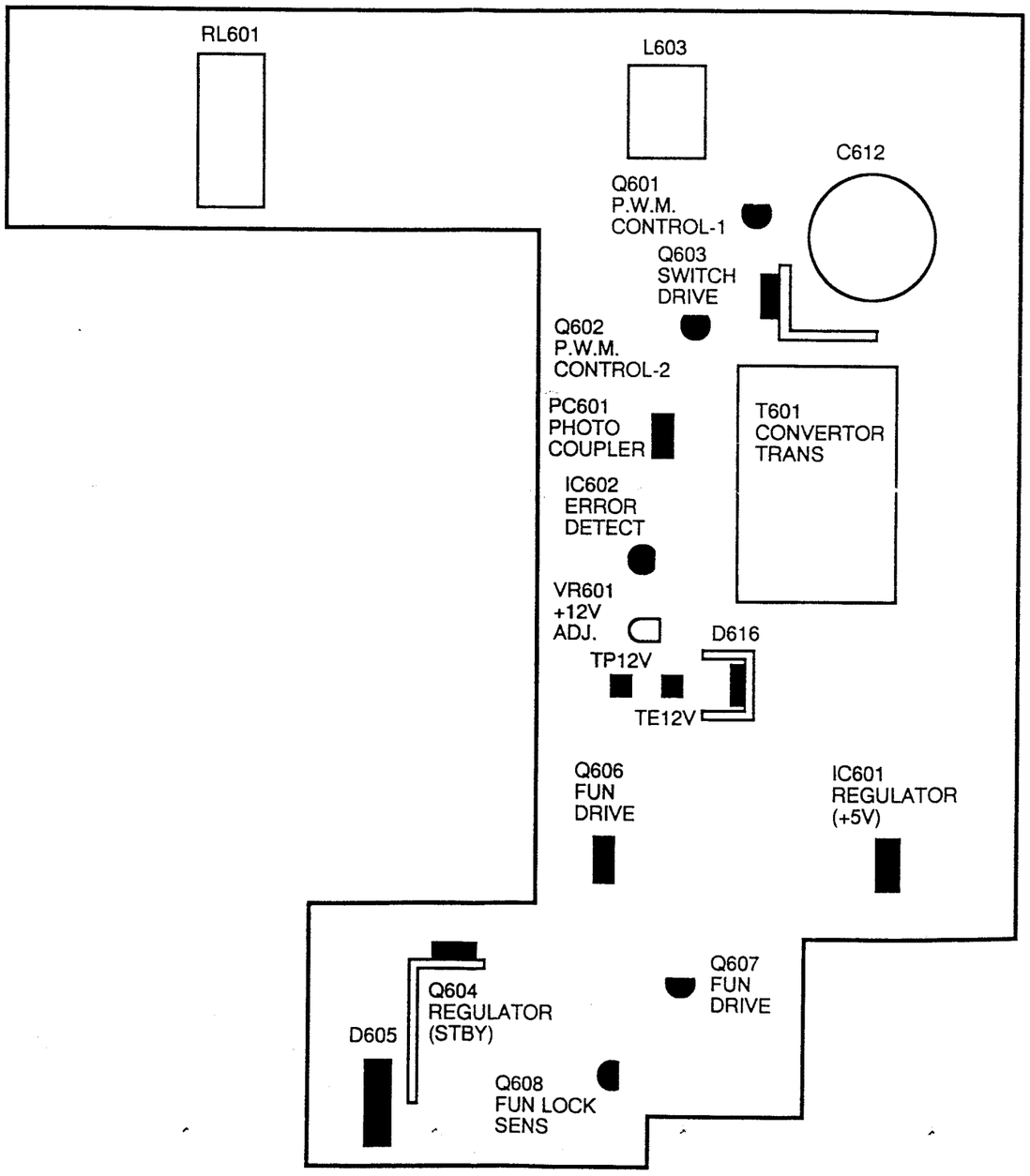
RC PRE-AMP. BOARD-R



RC PRE-AMP. BOARD-L



A/V CHANGE BOARD (FOIL SIDE)



POWER BOARD